

V V A R

Practically Perform'd :

S H E W I N G

All the R E Q U I S I T E S

Belonging to a

Land - Army,

I N

Marches, Battels, and Sieges.

Deduced from

Ancient & Modern Discipline

By the Experience of

Capt. NATH. BOTELER.

L O N D O N,

Printed by J. C. for *Hen. Fletcher*, at the
three *Gilt Cups* near the West-
end of *St. Pauls*. 1663.

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March 17, 1948.

March 17, 1948



To the Honourable
Sir RICHARD BROWN
Knight and Baronet,
Major-General of the City
of *London*, by His Maje-
sties special appointment.

SIR,



THE Spheres in
their several Orbs
turning about the
Centre that glo-
rious Luminary the Sun, do
by a mutual concord serve in
their courses to the preserva-
A 2 tion

The Epistle Dedicatorie.

tion of the whole Universe. Even so is it with sublanary Bodies in Terrene Governments. The King (who is not onely Head but Heart of his Subjects) makes use of suitable Spirits to grand Employments, that so the refulgent Rays of Regality may disperse the influence of good Government amongst his people.

The eminencie of your late sufferings in our distractions, hath most worthily raised you to be a Star of the first Magnitude in the Sphere of this great and populous City. And no wonder, when the meanest amongst

The Epistle Dedicatorie.

amongst us hath found your
exquisite industry in making
Justice Scale an Armature suffi-
cient to defend our heads from
the fury of *Mars* his sword. 'Tis
certain, when Military and
Civil Knowledge concur in
one Magistrate, the Citi-
zen may then sleep securely,
and look upon his Shop with-
out fear of filching. Your Ge-
nius leading you naturally to
use both Swords, (being cen-
tered and cemented in you by
long Experience) it hath been
a motive inducing me to pre-
sent you with this *Posthumous*
Work of a Learned Author.
No doubt but something may

The Epistle Dedicatorie.

be found worthy observation therein, he having so ingeniously compared Ancient with Modern Discipline, and drawn the whole Art of War into a Compendious Manual. It may be lookt upon as a *Generals* Guide, or rather Remembrancer, and the *Souldiers* Instructor in the Politick part of War; by which means Natural Valour and dayly Experience may make him capable of climbing to the highest pitch of preferment. Sir, I hope you will peruse it with pleasure, and finde such content therein as may be a recreation to
your

The Epistle Dedicatorie.

your Martial Spirit; which
will something extenuate the
boldness of

Your Servant

H. F.

A

The Epistle to the Romans

Ye are spiritual spirits which
will be working on the
boldness of the

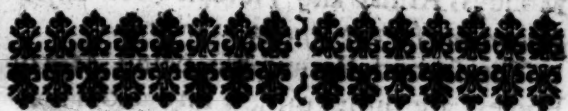
John 2:26

1st Cor. 12:13

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A
DISCOURSE
OF
The Requisites in making of
a War by Land.

BOOK I.

*Of Munitions, comprehending Moneys,
Arms, and Victuals.*



Here are three especial
Requirables in the ma-
king of War by Land :
*Munitions, Men, Disci-
pline.*

Under *Munitions* are
comprehended all such materials, or things
in general, as a War cannot be without :
And these, *via apparanda sunt, ut vincas
coloribus* And the principal of these are,
C Moneys,

Moneys, Arms, and Victuals: for *Disciplinam non servat jejunus exercitus.*

The second Requirable being *Men* or Bodies, are distinguished into Common-Souldiers, and Officers or Commanders: Of Common-Souldiers, there are Foot-men and Horse-men, or the Infantry and Cavalry: Of Commanders; the Generalissimo (who is to be onely One, under the penalty of losing All) and his Sub-Alterns, as the Lieutenant-General, the Lord Marshal, the Serjeant-Major-General, the Colonel-General, with the rest of the Officers of the Field, hereafter to be particularized.

The third Requirable (as inseparable in a regular War as any of the rest; for, *plura concilio, quam vi perficiuntur*) is *Discipline*. And this comprehendeth all Councils of War, Martial Courts, Stratagems, and Actions of that nature; as also managements of Arms, Forms of Battails, Marchings, and the like. And of every one of these, in this our Treatise, somewhat shall be observed; but very briefly of them all.

CHAP. I.

The necessity of Treasures. How they are attained by several Princes. And how they may be best preserved.

AND first of the first principal, (Monies or Treasure) included under the first Requisite, which is *Munition*. Now Treasure or Monies are justly termed the sinews of a War, as without which no orderly War can march or be managed: and therefore not to be undertaken (especially offensively) without a sufficiencie of this kind, timely and beforehand laid up. The wise VVarriour, as well as the wise Builder, being in the first place to fore-cast his accounts and future expences, before he enter upon any Action of this Nature. And herein the main difficulties are how to attain them, and how to preserve them.

The Tyrants of the East, as the great *Sultan*, the *Persian*, the *Mogol*, and the *Tartarian*, furnish their vast expences of this kind, by being absolute Lords of all their peoples Estates, who are all their

slaves. The Christian Princes, who pretend not so far this way, but govern more moderately, do this much after one manner, allowing onely some petty varieties; as the Monarchs of *Spain*, by their Customs upon imported and exported Merchandise, but in particular and chiefly by their rich and inexhausted Mines in *America*. The *French* Kings by Customs likewise, and Imposts, and especially Imposts upon Salt. The Monarchs of *Great Britain* by Customs also, but most substantially and thoroughly by Subsidies and Fifteens granted in Parliament. As for the rest of the mixed Monarchs, as those of *Poland*, *Denmark*, and *Swedeland*, they do the same, by the same ways, with little or no difference; onely the great Duke or Emperour of *Muscovia*, as he is the nearest neighbour to the Eastern Tyrants forementioned, so he cometh nearest unto them in this kind of Tyrannie especially. As touching the Common-wealths of Christendom, governed in a kind of Aristocratical way, as those of *Venice*, the *Grisons*, and *Switzers*, and some others, more pettie, as that of *Lucca*, *Genoa*, and some of the free Towns in *Germany*; though in
the

the means of their raising their Treasures they differ not much from the absolute Princes forementioned, yet can they better enlarge themselves according to their occasions, as being done by a general Consent, and not at the will or pleasure of any One in particular. Hence is it that the United States in the Low-Countries, having been forced by their exigents to nurse themselves up by a War, adventured upon an Addition to all the former Christian courses, by their Taxes upon all sorts of Victuals, called Excises; and hereby fill their Exchequers, and to admiration have maintained a long VVar against a Potent Enemie.

I intend not to enlarge my self farther in this particular of procuring Treasure, as being a work rather appropriated to the States-man then Souldier; onely I shall take liberty to pass a Souldier-like Censure upon them in brief; as, That that of the Tyrants is so insupportable, as it cannot be expected to attend any other opportunities, then to clear it self by a general Revolt; and therefore must be made good by as general a strength, which must needs exhaust any Treasure, be it never so great,

and make the Possessors poor, though never so rich: That that of the Christian Princes must needs be subjected to many casualties; as to a decrease in Customs by the point of Trading, to the hazards of loss when imported from the Mines in Foreign Parts, to the discontenting of the Subject when upon occasion they shall be never so little increased and innovated, and to over-tedious and dangerous delays (not to speak farther) when they are to be had by consent of Parliaments: so that the Low-Country way, when (as now with them) it hath gotten a Prescription by Time, and a Toleration by Custom, seemeth preferable to them all, and especially in regard of the certainty of having them.

As for the preserving of them when they are gotten, I shall onely say, that it may be surest done, either by melting them into Bullion or VVedges, and so to coin them upon occasion (as was the practice of the Ancients) or to lend them out for some small profit to particular persons, upon good caution: an especial care being had withal, that the Officers of the Exchequers be men of integritie, chosen rather

rather out of persons of honourable birth and breeding, then of Mechanicks, and men of base condition and qualitie. And thus we have done all we mean to do about the first principal, included under the first Requirable, which is *Munition*.

CHAP. II.

Of Armour of proof. Of Buff-Coats, and quilted Jacks. The length of the Pike. Pikes not to be over-long.

WE shall speak in the next place, and in this second Chapter, of the second Principal contained under the first Requirable, that is, of *Arms*; and first, of Defensive, and those fitted for the bodies of men: touching which, I shall not particularize in the pieces and names, well enough known to every Train-band-man, but only enquire into the use, and when they seem best fitted for service, and for the turn they are provided.

And first of those called Arms of proof. A proof indeed of the degeneration of mens spirits and courage, and wherewith

the wearers become so over-charged, and shackled; that they seem chiefly prepared to fight against the shock and brunt of their own coats of Steel; and as if bound rather to defend their Arms, then their Arms them.

In which regard (for mine own part) I find no reason why they should be in any great request. For should there be found one man of a thousand so well underlaid as to march or stand under one of them, yet shall he not be able to fight, no nor to keep his legs against the force of a Musquet-shot within point-blank, or a level Range: for though perhaps it pierce not his thick armour, yet shall it sure enough lay the bearer on his back, there to lie until he find a Comrade or two to set him on his feet, or be troden to death with the prease of his own side. And truly there is but little difference, either in respect of assistance to his Partie, or safety to himself, between a mans being killed by a Musquet-shot by the want of his boysterous Arms, and his being overthrown and tortured to death by having them upon him.

I deny not, but such kind of Arms as are
de-

Defensible against the Sword, the push of the Pike, and the force of a Pistol-shot, may be usefully born: and I make it a Quere whether this may not be done as well by a good Buff-coat, or at the least, by those quilted Jacks (in my opinion improvidently left off of late) used by our old brave English Archers, as by any iron Armour whatsoever: for these, when they are not pierceable, are not wearable; and when pierceable, make the wound incurable for the most part, by having a piece of the iron of the Armour carried into the body before the bullet. And certainly, (unless we will fall out with most of the Ancients in point of credit) it must be granted, that they had the use of certain linen Arms of excellent proof and use. And *Justus Lipsius* (*lib. 8. dial. 6.*) out of *Nicetus* his Chronicle, thus describeth one of them: *Conradus* (saith he) fought without a Target, and in lieu of a Curace, he had a woven weed made of Flax, soaked in sowre Wine, well salted withal, and often folded. It was so sure against outward force, being thus full'd, salted, and folded, that it could not be pierced with Iron or Steel. *Plinia* (*Hist.*

Nat.

Nat. l. 8. c. 48.) also maketh mention of the like. And *Cesar* (*De Bel. Civ. l. 3.*) hath somewhat to this purpose. And truly it is much to be pitied, that this Invention hath been lost to our age.

The next Weapon Defensive (especially against Horse) is that of the Pike, of which the most considerable is the length. Touching which, it is generally held, that it ought not to be shorter then eight Cubits, which make twelve foot. Some Pikes (among the Ancients) have been found sixteen foot in length: witness *Polyenus* (*lib. 2. in Cleon. Sect. 2.*) where he saith, that *Cleonymus* besieging *Edeffa*, and having overthrown the VVall of the City, the Pikemen (saith he) sallied out, whose Pikes were sixteen cubits in length. And it is not to be denied, but that short Pikes are greatly disadvantaged, having to do with such as over-lengthen them: for with a long Pike, a man is able to strike and kill his enemy, and himself not be touched. And hereof *Patricius* (*Parol. part. 2. l. 3. c. 8.*) gives us an example at the battel of *Sorato*, where *Vitellozze Fuselli* discomfited the *Almanes* only with the advantage of Pikes; his (saith the Story) being

ing an arms length longer then those of the Enemies. And at our being at the Island of *Rey*, after the Enemies horse (at our first landing) charging furiously French-like, were most of them slain in the place by our foot, and their Bodie of Pikes came up to the push of ours; It was observed, that our Pikes were longer then theirs, and this was thought to be one main cause of our so suddain and thorow routing of them.

Nevertheless (in my opinion) a consideration is to be had, that no Pikes be admitted, to be over-long, lest they both exceed the measure of his strength and management that is to use them, and by their over-length do over-sway themselves; and so by hanging crooked when they are to be charged, do hinder both the force and certaintie of their stroke. I hold therefore, that the proportionable and due length of a Pike may be, when the head of the Pike of the fourth man in the depth of the File, being charged, shall somewhat advance beyond the face and shoulder of the File-leader. And the ordinary length now required in Pikes, being fifteen foot, is well-near answerable here-

herewith. As for the Three-quarter Pikes and Half-Pikes, they are serviceable and proper to be used upon the walls of Towns, and behind Ramparts, Breast-works, and in Trenches; but not so fit for services against Horse, and in *Campaign*. And thus far concerning the Weapons of Defence, proper for the bodies of Men.

CHAP. III.

Of the places and parts fit for Fortification.

WE are now to give some Advertisements concerning the Defence of Towns: and in the first place, touching the places and parts fit for Fortification.

Now these are to be such by Nature, as may be made inexpugnable by Art, or at the least brought to the nearest terms of being so. Of which kinds are Rocks, Islands, Hills, and Necks of Land. But herein it is carefully to be observed, that none of these places be commanded by an external height; or if they be, that that part

part be fortified also. Observation is also to be made, that the soil of the part be not Sandie; for then there can be no repairs either against Battery or Sap. Respect is likewise to be had to the air, that it be wholsom, and especially that the place be well provided with water; and so, that it cannot be cut off by the Enemy: That it be in a Country well furnished with Vidual of all kindes; and withal so sited, that it may serve as a Bull-work unto that Country, either by a Guard of a Port, or the Defence of a Passage: That it be apt to offend an Enemy on all sides by Sallies; for so it shall be apt also to be relieved, and cannot be blockt up with any one Fort alone: That it be not so great as to require over-many men to Man and Dependic; nor so little as not of capacity to receive a sufficiencie of hands to give an impediment to an Enemy in his passage: the mean betwixt these two, being, when the Diameter it consisteth of three or four hundred paces: and lastly, That it be in such a part, as that no Siege can be brought before it, but by an Army divided. To which end, the situation upon Rivers, and Tongues of Land lying betwixt two Rivers,

Rivers, are most proper and convenient. And these are the usual Advertisements and Observations to be made and received in the point of choice of the Place and Part that is fit for Fortification. Whereunto I shall only add thus much (confirmed herein by *Gyrolamo Maggi*, (*lib. de la Fortif. l. 1. fol. 4.*) and *Iacomo Castriotto*, approved Engineers,) that in new parts to be inhabited upon any *terra firma*, or on large Islands, where all Landing-places are too many to be secured by Fortification, the most useful and provident part to raise the strongest piece upon, is in some Mid-land place, where there is an Intention to settle: the which nevertheless to have some smaller pieces of Fortification round about it, or near unto it, upon the most likely and obvious Avenues, that so an assaulting Enemy may be impeded in his approaches, as not daring to leave an Enemy behinde him, whereby he may be in eminent peril of being cut off from all manner of supplies, and may expect to receive continual molestation by those the Forts left behind him; and likewise the Inhabitants may finde means not onely to shelter themselves in their persons, but

to save their goods and cattle within and under the command of this Fort thus situated.

CHAP. IV.

The perfection of Works due to Fortification, in the point of a Bulwork, and its parts, and in the point of the Curtains and its defences.

THE part proper for Fortification being thus found, some Caveats are to be received touching the perfecting of the works. And these are, that an especial care be taken, that the Bull-works be not hollow, and that the *Piazza* or Plain thereof be raised equal with the Rampart to the foot of the Parapet: And that there be no Vault nor Casemate that may give Impediment to the play of the great Guns, either by blindings with smok, or any other way: That no Angle of a Bul-work be over-small, lest it prove easie to be battered; nor over-large, lest the point with a small battery be hidden from the flank: That every Bull-work have his Coun-

Counter-mine; the which, though some think (by way of saving of charge) may be timely enough done when an Enemy begins to make his Approaches, yet for my part I cannot approve of so thrifty a presumption: That every Bull-work have two Sally-Ports as secretly contrived as may be; to which end, the Angle of the ear of the Bull-work is the most proper part. That every Flank regard the face of the opposite Bull-work, that so the Enemy may be dislodged from Mining the Rampart: That the Angle of the Flank be right Angle; because an obtuse Angle layeth the Cannoniers or Port-holes over open, and a sharp Angle disordereth the Face of the *piazza* of the Bull-work, and of the ears thereof: That there be in every Flank, one piece of Ordnance at the least, so secured, as that it may serve for constant defence for the opposite Bull-work: That the Port-holes next to the Angles of the Curtain, lie as little discovered as possibly may be; provided nevertheless, that they regard and scour the ditch and the covered way, or false Bray with some part of the circumjacent *Campagna*: That the defence of the Face of every

every Bulwork be taken out of half of the Curtain, and so be made, that it may be re-guarded by the Flank, thereby prohibiting an Enemy to Mine: the which cannot be done if the defence should be taken from the Angle of the Flank, as of old: That the distance from the Angle of the Flank to the point of the opposite Bulwork, be not above two hundred paces (within which distance the great Guns may work their effects) nor fewer then one hundred and fiftie; that so the Defendants guarding in the Flank, may not be offended by the Enemies Musquetiers from the point of the Counterscarp: That the Ports be made in the midst of the Curtains, and not of the Flanks nor Ears, which otherwise might be weakened by them: That no part be discovered from the *Spalto* or shoulder; so shall it not be subject to batteries, or at the least not to the same batterie of the Point or Flank: That the Curtains between the Bulworks be drawn in a right line: That no Bridge lead directly to any part of the Work, that so the use of *Petards* may be frustrated; and this also may be done by Draw-bridges: That the whole Work

command round every way, over all the plain where it is erected.

And these are the material and principal observations and advertisements due to Works of Fortification, when new ones are to be raised, and the choice of the place to be had at pleasure.

CHAP. VI.

Of defective pieces of Fortification. Of the Forms of Works: the Triangular the worst Form.

WE are in the next place to make some advertisements touching such pieces of Fortification as are defective, either in respect of Form, or otherwise; and all such are so to be held, which participate not of the correspondence and defence which they should borrow one of another.

Now this mal-correspondence may be reformed, by giving to the parts of the same denomination, equal proportion in height, breadth, length and declination, if the situation will possibly permit. And the

the defences are secured and amended by increasing of the points of the Bulworks to such a moderation, as that they be not carried to the prohibited terms of sharpness; the which for all that, serves not for the reformation of all old Works, but onely for such as are regular.

As for the irregular (besides the reformations of particular members) it will be needful to build some new and entire bodies of Fortification. The truth is, that in the reforming of the substance and main of old Works, more labour is to be used then skill; for herein it is onely necessary to fill the Bulwork, if it be hollow; to increase the thickness of the Curtains and Parapets, if they be not sufficient to resist Batterie; to make the ditches deeper, wider or narrower, as cause shall require; to cut a Counter-scarp with his Ravelins and Flankers round about; to advance the *Spalto*, or shoulder, if it be over-low, to the heigh of the *Cordone*; to increase or diminish the scarp, as need shall require: and lastly, to repair the *Camisia* if it be ruinous.

As for such Fortresses as are sited on badie Grounds, being in themselves at

together without remedy against batter
or sap, the natural defect is to be supplied
by an Artificial *Camiscia* of wood, made
with such proportion of Scarp and thick
ness, as that it cannot be ruined but by
much time and great labour. And when
the Curtains are excessively long, and
thereby defective, the Redress may be
either by a Cavalier or a Platform, or by
setting the Flanks the nearer one unto
another. But the best way is to make the
Curtains of one, and to raise a new Bul
work in the midst between them. And
the *Spalls* may be perfected by either of
these, with a new *Camiscia*, or by retiring
the Curtain farther into the Fortress,
for the defects of the *Gala* of a Bulwork
they are not to be reformed and made
wider, but by removing of the *Spalls*
so much as is needful, towards them of the
opposite Bulwork.

As for the Forms of Works of Fortifi
cation, the Triangular and Square ones
are justly the most imperfect of all others
by reason that the Bulworks must of force
become over-sharp in the points (and
especially in the Triangular Form) where
by they are easily battered in that part

to the extreame danger of the whole Piece; by reason that the Enemy cannot be offended from those parts, but may safely come to the assault, without being endangered in Flank : and besides, if the Parapet chance to be beaten down by the straightness of the site caused by an acute Angle, all place is absolutely taken away for a retreat, and no room left to erect another in its stead, either with Gabions or Trenches. In these respects it may therefore be concluded, that the best Forms of Fortified Towns, are those which consist of most sides, as nearest approaching to the circular Form, which is the most capable of all others, and by consequent can afford the more commodities for the accommodation of strong and ample Bulworks, and have the Angles more obtuse. And the Streets likewise may the better be direct and strait, which is a main matter towards the defence of a Town of War ; by reason that they may be the better traversed with Trenches and Barricadoes upon all occasions. And thus much touching the Works due unto a Fort, and a fortified Town, both regular and irregular. It remaineth to say somewhat of the

Ports; the which shall take up the Chapter following.

CHAP. VI.

The best Forms for Ports. The part where the Ports are to be made.

Touching the Ports of a Town of War (nor to speak any thing of the Antique ones, justly despicable) the general modern rule is, That the extremities of points of these Works be not extended or thrust out any way beyond those of the Curtains, lest by their interposition, they hinder the operation of the Artillery, and so frustrate the defence of them: And that these Ports are to be raised so near unto the Bulworks, that from them they may be defended by Musquet-shot.

As for the part where these Ports are to be made, the famous Engineer *Samuel Martin* propoundeth it to be upon the Curtain; their largeness to consist of five Braces, their height of nine: and that near unto each Port, is to be a Postern cut out of the Curtain, in breadth one Brace and

and an half before, and three behind : and that the Counter-port should be of five Braces in breadth, and eight in height : and between the two Ports, he would have left the covered *Piazza*, or Plain, or Passage, to be in breadth one Brace, and in length thirty two ; having withal two places so framed, as from them to give fire on each side upon the first Gate : and on each side of this passage to be three square Rooms below, of eight Braces on a side, wherein to lodge the Souldiers of the Guard ; and as many above, directly over them, to be passed up into by two Ladders or Stairs ; the one Stair on the one side, and the other on the other, upon those sides of them which lie within, and towards the Town and the Guard thereof : and so the whole piece become a perfect Square, upon the flat top of which, he would have a Cavalier to be raised, to be passed up unto by two other pair of Stairs in the Flanks towards the Curtains.

Thus proponderth the great Engineer, *San-Martin* or *San Mariano*. Nevertheless, if the height of these Works be advisedly considered by this prescription, I see not (howsoever the Front may make

a gallant Prospect) but it must needs carry with it very much of peril, and lie open to a Batterie, by reason of the heighth. And therefore I am of opinion, that these Ports with their seconds, are not to be made upon the very Curtains themselves, but somewhat within them; and so to make a kind of Ear or Pome unto it, the which may so stand out before the Port, as to hinder the Enemy from beating upon it with his Guns, and withal offend such of the Enemy as shall approach behind the shoulder: and likewise it shall hereby play very freely upon that side of the Bulwark which is next unto it, and upon the bosom or bowing of the foresaid Ear, Pome, or Guard of the shoulder that flankers it.

True it is, that the way or passage which leadeth from the Port into the Town, is to be (for a good way) somewhat extraordinary large, and withal with such a bending, that two pieces of Batteries, at the least, may directly and fully beat upon the Port itself: to which end all the whole passage is to be kept clear from all impediments of houses, or any thing else that may hinder the play of these Ordnance.

CHAP. VII.
Of Ports or Citadels within Towns. The
best Forms of these Forts. Of the Cava-
liers within these Forts.

From these Ports we have occasion to observe somewhat touching such Forts and Citadels as anciently, and in many places to this day, are raised and maintained in some Towns of War; and serve as well to defend the place against an assailing Enemy, as to hold the Town it self in awe and order.

Now to this purpose, the antique use was to seat the Citadels in the midst of the Town, upon some high and elevated part; and if none such was there to be found, then to raise them in any other part, best tending that way.

The more modern practice hath been, and is, to erect these Citadels in such a posture, and in such a part, that the one half of them might be within the Walls of the Town, the other half without, as the situation would bear. And this was principally done, that supplies might be brought

brought in or out unto the Citadel, without being in danger to be hindered by the Town, if it should happen to be impatrolled either by Rebels or by an Enemy. But this way hath not passed without proof, because the part without the Wall may be so ruined either by Battery or Mine, that the part within shall not be able to put into it any sufficient supplies.

It's my opinion therefore that Citadels within Towns of War are most properly sited, when they stand upon the most eminent and elevated part, and if it may be, upon the very Walls of the Town, and so serve in the nature of a Bulwork also to guard and flanker the Curtains of the Wall on each side; but yet so, as not to be offended by the over-vicinity of any of the Bulworks; and that they be contrived with one or more secret Posterns, or private and close Avenues, that Munition and Men may at all times be conveyed into them; and that every way they have a full command upon the Town wherein they stand, and be able especially to bear upon such parts thereof as are most frequented, and especially the Market-place

and

rich and Ports; so that if the Town should
the chance to be surpris'd by an Enemie, or
tro turn Rebel, it may not onely be battered
by the Fort, but the parts thereof disarm-
ed and means and commoditie afforded
Wall for the receipt of all such supplies as may
be intended for the regaining of the
Town.

As for the Forms of these Citadels,
howsoever the Triangular and Quadrate
Forms are disapprovable in Royal Forts
(as formerly was noted) yet in these, in
regard they are generally but small; they
may be allowed to consist of four sides,
and indeed not of above five: yet is their
circuits not to be so little, but that there
may be a sufficiencie of Retreat upon all
occasions: for otherwise they may suffer
much. As for their Walls, Curtains, and
Bastworks, they ought to be (in my judg-
ment) somewhat larger, and their ditches
deeper then those of the Town, as sustain-
ing the greater charge, and undergoing
the more of danger.

It is also very necessary, that within
these Citadels, Mounts or Cavaliers, be
rais'd in the midst of them, not of stone
(for these may not onely be easily ruined
by

by an Enemies Counter-battery, but will al prove dangerous to the defendants (Guard near at hand,) but of good earth the top of which is to be circled with Gabions, or solid entrenchments. And thus may the Territory and Champain round about be commanded with the Ordnance mounted upon them, and the Enemy disabled from making his approaches but with much molestation and danger.

As for the way to furnish these Citadels with water, it must be done by Wells or Cisterns, or both, in convenient places. And for their Arms, Victuals, and Powder, Caves and well-secured parts must be framed, wherein to store them, and especially for their Powder, that it may be so distributed and repartited, that it be not either by chance or treachery fired all at once. But of this more shall be prescribed in another place. Now the benefit and assistance that have been found by these kind of Citadels, was evidenced in that of the *Campi doglio* in *Rome*, which recovered that Citie from the *Gauls*: In that of *Tarento*, which held out five years after the taking of the Town, and was the means of reducing it.

And

And of late in an Action of our own in the journey to the Island of *Roy*, where the Citadel of the Town of *S. Martins*, though it lay without the Town, because the Town was unwall'd) after we had been possessed of the Town and whole Island, for three months space, by its holding out against us, put us to a Retreat, with the loss of our cost and labour, and the lives of some of our best men.

CHAP. VIII.

The best matter whereof to build Forts.

How to be wrought where there is sand.

AS for the substance and matter whereof the Works of this Nature are to be made and to subsist, it is earth; and of earth, the perfect clay is the best. And yet when this is to be had, provision is to be made of store of brush and fagots. Of which, in raising the Bastions or Scarps, one fagot is to be laid in every three foot of ground, and so thoroughout the whole Work: only the Front of the Work is to be made up with good Turf, with

with the Green side outwards, and to be well lined with brush and fagots, with good mold thrown both upon them and in to them; the which will not onely make it firme, but comely. And where none of this prime earth is to be had, but the onely of the middle sort, which is part of firme clay, and part of sand; then ought there to be provided the greater store of this brush and fagots, and mud, or the like stuff, to be thrown into the Fagots, and a fagot to be put between every two Turfs of earth.

But where nothing is to be gotten but meet sand onely (which is the worst of all sorts of earth) a very great abundance of brush and fagots are to be had in readinesse, and the most firme and stable Turf is to be fetched elsewhere, and to be proportioned into eight Spans in largeness, and sixteene in length. And the rows of Turf are to be doubled the one upon the other, and with great Pins or Dibbles of strong wood each of them of two foot in length, to be pinned and fastened together. And every course of two Turfs are thus to be pinned, putting withal into every course a sufficient store of fagots filled with sand: and

On the face of all, some of the best earth is
 again to be laid to the thickness of four
 spans, that so this earth may be scarped
 by little and little, to cause the VVork to
 shew fair; two Scarps being to be made
 between every five foot of ground, always
 mingling withal, within and near unto the
 firm earth, some Straw, or Mud, or the like
 stuff.

And indeed these sagors or brush, are the
 most principal materials, as well for de-
 fence in Cities, as in all approaches upon
 them: neither, to say truth, can any de-
 fences at all be suddenly raised by any
 means without them, nor any half Moons,
 or the like; so that it may well be said,
These Sagors, want Defences.

And this is evidenced in no part more,
 then in the Low-Country-VVarw where
 most of their designs reflect upon the ru-
 ing and keeping of strong Towns, and
 where all, both defences and approaches
 are chiefly made up with these sagors:
 Next above all others, the last famous
 Siege of the Borse, where the expense in
 these kinds alone, was on the Assaults
 infinite great, and the effects no less
 admirable.

CHAP. IX.

Of Guns in a Town of War: Where to be placed.

HAVING gone thus far in the point of Forts and Fortifyings of Towns of War, we are to give some advices about the Artillery and Guns belonging and due unto them. It is the general opinion, that in a Town of War of the true size, which (as before said) is to be in the diameter between three and four hundred paces, there is not to be fewer then sixty pieces of Ordnance, which are thus qualified. Of Cannons twelve shooting forty pounds of iron, which are to be employed in Counter-Batteries. Of Demy-cannons eighteen shooting twenty four pounds of iron, for the defeat of the Enemies defences and trenches. Of those called by the French Quarts du Cannons, shooting ten pounds of iron, wherewith to offend the Enemy in his approaches, and to endanger his Sentinels and Out-watches. Of Field pieces twenty, shooting five pounds

iron, or seven and a half of lead; to be employed not onely upon the Walls and Ramparts, but upon the entries of Breaches: and besides all these, three Morter-pieces at the least, for the throwing of Granadoes and Fire-works into the Enemies Trenches, and to give light in the night-time, for discoverie of the Enemies Works.

These are the Repartitions of the great Guns, accounted requisite for the defence of a well-fortified Town: wherein I shall onely advise to change the twelve whole Cannons for so many half ones. And my reasons are, first, because they are more manageable: secondly, in that they may be oftner, and with more ease, be charged, discharged, and recharged: thirdly, in regard that they do not over-shake their Walls and Works, as Cannons do: and lastly, in that they exact not so many hands to manage them, nor require so great expence of Powder as the other.

As for the parts and particular places where these great Guns are to be lodged, and especially during the time of a Siege; the Rules are, that if the Enemy plant Batteries against the Curtains of the
E Wall,

VWall, the Guns in the Town are to be mounted upon the Bulworks next unto that Curtain where the Enemy batters, lodging withall some few Pieces upon the inmost brink of the ditch which flanketh with the breach. But in this point, especiall care is to be taken, that these Pieces as well on the Bastion as Ditch, be never suffered to play, save when the Enemy presents himself in multitudes to force the breach, that so they may lie undiscovered.

But if the Enemy batters upon the Bulworks, then the neck of the Bastion is to be cut and retrenched; and within this retrenchment some great Guns are to be laid, and with good shoulders to be well covered and shadowed, until the Enemy adventures to force the breach, and then to be thorowly employed on the sudden. And this retrenchment may also be used in defence of the Curtains, if there be void place for the making of a half Moon or the like piece of VWork. And thus are the great Guns to be lodged and employed in a well-fortified Town of VVar.

CHAP. X.

Of the Out-works requisite to a Town of War. Of the Ditch, the Ravelins, Horn-work, Counter-Scarp, Half Moons.

HAVING thus far discoursed of the inward VVorks of a Town of VVar, we shall now advertise somewhat also of the Out-works.

And first of the Moat or Ditch, which lieth the next without the Town-VVall; and is sometimes in some places without water, sometimes filled with water; and again, sometimes filled with a standing water, sometimes with a current.

Now of these particulars, as also of the breadth of the Ditch, some disputes have been which should be the best. Of which (in affecting brevity) I shall onely say, That the drie Ditch may be fittest in respect of the VVorks that may be made in it; and the wet, in regard of retarding and troubling of an Enemy, and forcing of him to fill it up, or to lay Galleries over it.

The second Out-work without the

VValls, are the Ravelins ; and these generally are cut out triangle-wise, and are raised for the most part, in the middle of the Ditch, and serve as well to defend and scowre the Ditch, as also in the nature of Casemates.

The third VVork without-dores, is that called the Counter-Scarp ; and it is a kinde of Brest-work, cut enclining by little and little downwards, and sited on the outmost shore or side of the Ditch : and serves for the safety of Musquetiers.

The fourth VVork of this nature, is termed a Horn-work ; and it is contrived to secure and scowre the Curtains of the Counter-Scarp. And it takes the name, by having their corners of the Fronts shape like a Fork, or two Horns joyned together.

Last of all, before these Horn-works are again cut out certain places of a safe Retreat, called Half Moons ; and these are also fortified with a Counter-Scarp about one Cubit in heighth. And into these Half Moons are passages cut out for the Souldiers to go from the Front of the Horn-work behinde them, over little Draw-bridges thrown over their Ditches.

And

And these are the chief and prime of all those Pieces termed Out-works ; which, to speak truly, are rather the Repairs and Succours of faultie Pieces of Fortification, then any true ones themselves. Touching all which in general, an especial care is to be had, that both the outward and inward VWorks of a true fortified place, be so contrived, and so correspond one to another, that some of them lying higher then others, and others again in an equal heighth, they may with the more surety defend each other from the Flanks, and from above : so that from the outmost to the next to it, and from thence to the rest, there may be a safe retreat for the Defendants upon all occasions.

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CHAP. XI.

Ways of Defence, by Protraction, Frustration. Batteries, Mines, Assaults, how to make void. Defence of Towns by way of Sallies. How to carry off a Garrison of a Sea-Town.

WE shall now propound some courses of defence by way of Protraction, and others by way of Frustration; whereby a besieged place may haply preserve it self against expugnation.

Now the courses by Protraction, are either by the raising of some small Ports, or by Counter-approaches, or Sallies. The Ports to this purpose are to be raised within Musquet-shot of the Town, whose Ditches are to be embogued from the Flanks of the Bulwork, or at the least from some part of the Curtain, from which also the platforms of the Ports are to be wholly discovered; that if the Enemy should gain them, he may as suddenly be beaten out, and disabled from maintaining them. The Counter-approaches are to be embogued from the Flanks, and to begin at

the

the Counter-Scarp, and so to be carried towards the Enemies approaches. And the use of these are, both to delay the Enemy in his approaches, and to lodge Souldiers in; from whence they may aid the Defendants in their Sallies. And the one part of the earth taken out of these Counter-approaches, is to be cast up towards the Enemies VWorks; and the rest to be carried into the Town for Munition-
earth.

As for Sallies, whensoever they are to be practised by night, a sure course is to be taken that intelligence be gotten how the Enemy is lodged, that they may be brought on accordingly: if they be to be made by day, it must always be done upon some advantage, and a strict injunction that they pass not beyond the distance of a Reserve to be given them by the shot of the Town. And thus by these Sallies distinctly made, the carrying of Galleries and Traverses intended by the Enemy, may be hindered from being brought over the Ditch. And the like may also be done by Counter-mines, if the Ditch be drie; and by throwing into it combustible matters, as Fire-works, and the like. And if

the Ditch be wet, provision must be made of Boats and Floats, for the better conduction of these Sallies whensoever they are made. And these are the courses of Protraction.

Those of Frustration, are performed either by making void the Enemies Batteries, or his Mines, or his Assaults.

His Batteries may be made void either by a Counter-batterie, which may dismount his Guns, spoil their Carriages, or ruine their Gabions: Or by a repair of the breaches made by the Enemies Cannon; to which end, store of Timber, Pales, Faggots, Hurdles, and Munition earth, are to be provided: Or by carrying the earth into the Town which falls from the Batterie, that it remain not either in the Ditch, or increase the Scarp.

The Enemies Mines may be frustrated either by Counter-mines, or by Batteries from the opposite Flank, or by wetting of the Powder in the bed of the Mine, or by giving vent unto the Mine. And either of these may be done when the place of the Mine is discovered; and it may be discovered by the use of a long Piercer, such as are commonly used in the proving

ing and search after Cole-mines.

The Enemies Assaults (though they cannot be absolutely restrained) yet may be sustained either by the Cannon securing in Flank, and fully re-guarding the breach, being continually well plyed during the whole time of the assault; or by a Counter-Mure, whose platform ought to be streight, and the Flanks so contrived that one may not endamage the other: Or by Mines as well in the ditch as platform of the Counter-Mure, and which may be covered with boards full of nails: Or by continual throwing of Granadoes, Stones, Timber, artificial fires, and the like combustible matter.

And if any place of strength, as Town or Fort, shall happen to be so assaulted and stormed, as that neither hope of any inward defence remains, nor hope of Quarter; in this desperate condition, if a Sally be made out of divers Ports at once, and that unexpectedly and thorowly brought on, and well followed; it hath been found not onely to mitigate the heat and violence of the assault, and control the fury of the Enemy, the better to obtain reasonable and Souldier-like conditions and Quar-

Quarter; but also quite to alter the face of the day, and absolutely to occasion the quitting of the Siege.

And hereof we have a punctual example from *Cæsar* in his Commentaries where *Sergius Galba* (being sent to make good a certain passage of the *Alps*, and to that purpose resolving to winter in the part) was suddenly besieged, and assaulted in his standing Camp, by the native inhabitants; and being so over-pressed with multitude, that no hope of longer defence remained, by the advice of *Caius Volusenus*, the besieged *Romans* brake out through all the gates of the assaulted Camp on such a sudden, and with such a courage and alacrity, that they gave the assailing Enemy no leisure to consider of what was done, nor to satisfy their judgments and apprehensions upon so unexpected a motion: so that the face of all things being suddenly changed, the *Romans* (saith the Story) found the means to slay more then the third part of thirty thousand men, and absolutely routed all the rest. And if a Garrison or Army being besieged in a Haven-Town, the Port being open to Seaward, shall be so forced upon by an over-potent

potent Enemy, as that the place must needs be forsaken; the safest course to do this, consisteth in some Works to be made within the Town: and these Works may be of three sorts; either by Muring and barricadoing up the Entrances and ends of the Streets and Lanes which might give access to the Enemy; or by sinking some Ditches or Trenches cross those ways and passages, which may also be stuck full of sharp stakes and calthrops, covered and shadowed over with light and thin hurdles, that the assailing Enemy may not see them; or to hedge in all such Avenues as lead unto the Port, with a strong *Palizado*.

As for the course of conveyance of the Soldiers out of the Town to Ship-board, it must be carried with as little shew of fear as may be; and by the stay and shewing of some of the lightest armed men here and there upon the Walls and Bulworks, to make a semblance of a longer holding out of the place; and that the Enemy may take no notice of the least intention of a retreat. And these last reserve of men, are to be called off upon the giving of a word, after the rest of the army are embarked, without noise or tumult. And

And of this also we find a president during the Civil VVars between *Cesar* and *Pompey*, who being besieged by *Cesar* in *Brundisium*, punctually practised the course, and safely shipped all the remainde of his forces into *Greece*, where most of his Legions were before. And this he did without loss or trouble, although *Cesar* did his best to prevent it.

And surely had we done the like at the Isle of *Rey*, and in this manner shipped our men at the Town of *St. Martins*, and not marched over into the small Island of *Longby Land*, in all likelihood we had escaped that blow, and had come more safely off in that our unluckie descent.

CHAP

CHAP. XII.

Of the expugnation of Forts : how by an Escalade, either in the night or day. The Bridges for an Escalade, how ordered. Of Surprizes by the use of Petards. Of approaches upon a besieged Town. Of Galleries used in Sieges, Batteries, how to be made and preserved.

And thus having spoken somewhat of all the ways and practices Defensive in a VVar, we shall now do the same touching the courses of Offence.

And first of all, this ought to be received as a Maxime, that whosoever intendeth to expugn any place whatsoever, is to be at that present, in that part, Master of the Field: he ought also to be well informed of the situation, strength and provisions of all kindes, wherewith the place he means to besiege is furnished. As in particular, with what kindes of Ordinance, and how many; with what quantitie of Provisions, as well for defence as in point of Victual. A true and perfect designation is likewise to be procured of the VValls, Fortifications,

ons, Balworks, and Bastions ; of the strongest and weakest parts of the place, as also of the most Minable and Unminable parts. And if he aim to attempt it by surprise, that it be resolved with judgment, and executed with diligence and resolution : as in particular, if by way of Escalade or Scaling, either by day or night, that perfect information be gotten of the quality of the Ditch ; as, whether it be filled with a standing water, or a curreant ; whether it have a Counter-Scarp or not, on the innermost side. If it have a Counter-Scarp, and the water in the Ditch be a curreant, the course by way of an Escalade may be by the provision of a dozen of light bridges made with two poles of Pine, or some other light wood, to the length of fifteen or twenty foot, and the thickness of a mans thigh ; upon which poles, traversed pieces of planks are to be fastned a foot wide asunder, Ladderwise, and to be in largeness about three foot. At the end of which Ladder or Bridge, as well before as behind, two strong cords are to be fastned ; that by them, when the Bridges or Ladders are thrown over the water of the Ditch, they may be drawn back at pleasure.

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These Bridges thus fitted, may each of them be carried by six men: and being brought to the side of the Ditch, and set down upon the water, four or six Souldiers are to bestow themselves upon each bridge, sustaining themselves upon their Pikes, and so to pass over the Moat. These men being thus gotten over, they are to thrust back the Bridges, holding the ends of the cords which are next unto them, and giving room and a length of cord for the bridges to pass over, that so they may reach to the other outward side. The which being done, four or five Souldiers more are (as formerly) to pass upon each bridge; and those Souldiers that were first over, are to draw these bridges up unto them. And thus to continue doing, until there be so many Souldiers past over as the place is capable to receive, or shall be held sufficient to carry the Town.

This being done, these bridges are to be drawn up out of the Ditch by the Souldiers that have passed over, and are to serve in the nature of Ladders for the scaling of the Wall. And because they may perchance prove too short for the height of the Wall, it is a necessary providence

vidence to have for every one of the bridges a smaller Ladder, not fully so broad as the Bridge-ladders themselves, the which may be enchas'd and made fast unto them by their steps, and so the want of height in the bridges supplied.

It is good providence also to provide some Ladders of cords with strong hooks of iron at their ends; the which hooks in throwing, are to be latched to the top of the Wall.

But these are not so much to be trusted upon, as the former Ladders, in regard that they may be often thrown up, before they fasten. And these are the most probable and secure courses to be practised in Escalades. Many others there are of this nature, which are to be varied, according to occasion and opportunity, to the purpose.

But if a Surprise be intended by the use of a Petard, one approved course may be by fastning the Petard to the end of the Mast of a ship, much after the same manner that small-barrels of Guns are laid in to stocks of wood. At the other end of which Mast is to be hung a weight counterpoising the Petard, that so it may be directed

directed and moved in a straight line. And
in the midst of the Mast are certain
wheels to be fastned, equal to the wheels
of the Carriage of a Cannon. Behinde
these wheels, when the Petard is brought
to the part where it is to do execution, im-
plements are to be laid to prevent all
reverse. And it is to be brought up as
close to the place where it is to work, as
possibly may be. And against the time of
giving fire to the Petard, provision must
be made of a Draw-bridge, to supply the
place of a Draw-bridge belonging to the
Town that is to be attempted, if it should
be broken down, or drawn up.
And thus much onely touching such at-
tempts as are to be made upon a Town of
War, by way of Surprise. But if this be to be
done by encampings, observation is to be
made, that the Army be lodged and en-
trenched with such judgment, that the
Quarters on all sides, and at all times,
secure and second one another; and with-
out be so well united, that they may both re-
sist the Enemy in *Campagna* (if he shall
offer to fall on that way) and to maintain
themselves withal against the besieged
Town. As for the approaches upon the

F

Town

Town it self, they are to be begun some what beyond the distance of Musquet shot from the Towns Wall (except the situation of the place afford other advantage) and from thence are to be carryed forwards to the Ditch, and then from the Ditch to the face of the Bulwork, and rather to the Bulwork then the Curtains, (especially if the besieged Town be any thing large) because the Curtains are guarded with more then one Flank, whereas the Bulwork is onely with one.

And in the making of these approaches these particulars that follow are alwayes to be observed. First, That all the earth taken out of the Trenches be thrown towards the Town besieged. Secondly, That these Trenches lie not open to any part of the Town, either in Front or Flank. And this to be done by carrying of the Lines of the approaches fully without the points of the Bulwork towards which it is to be approached; and without by making them deep below the line six foot, and not broader in the bottom then to twenty foot. Thirdly, That these approaches flank one another, which is done by making of many Trenches

ches (*à la Forbici*) every one of them being to be to the length of thirty or forty paces. Fourthly, That every Trench be provided with some small Works for the lodging of a *Corps de Gard*; and these are to be cast up at the ends and mid-parts of the Trenches. Fifthly, That at the head of every approach, a small Fort be contrived capable to lodge so many Souldiers as may repulse any Sally. Sixthly, That the Angles of the Trenches be deeper then the rest of them, so to preserve them from being discovered from any part of the Town. Seventhly, That the cutting into the Counter-Scarp be under ground, and not directly embocqued with any part of the Wall. Eighthly, That those approaches which be carried thorow the Ditch to the Wall, be made of matter incombustible; and withal, be of force to resist any batterie from the Town which regardeth them. And this is to be done by Traverses if the Ditch be dry, and by Galleries if it be wet.

And these Galleries are to be reduced into members or parts; that so the more easily they may be carried from place to place; and to be rejoyned when they are

to be used; and then to be covered with fagots and earth, or with mats made and kept wet, that the Enemie may not endanger them by Fire-works. And these Galleries may be larger or lesser, as cause requires, carrying the height of nine feet and the breadth of six: though true it is that the larger they are, the better they are, as admitting a freer passage for men be they either Souldiers or Pioneers.

Now whilst these approaches are thus in action, Batteries are to be raised and planted: to perfect which, respect is to be had of their security, their execution, the form, and the expedition. Batteries may be secured against the shot from the Town by Gabions, seven foot high and six foot broad, filled with solide earth well trodden and against Sallies, by Trenches well furnished with Souldiers to repel the Enemy. Batteries may prove defective in the execution, both by being over-remote and by the manner of mounting of the Guns. The distance therefore from the part to be beaten upon, is not to be above two hundred paces, nor neerer then one hundred: for when they are within the one, or without the other, the ball loses

of its best force. As for the forms of Batteries, the Guns are best mounted when they may stand parallel with the Batterie: because when they are under the horizon, the ball affecteth its natural repose; when above, it suffereth violence. As for the form of the body of the Batterie, the most proper is that of a half Moon; preferable to all others, in regard that it discovers wider, flanketh better, and requireth fewer Gabions then any other form. Touching expedition in point of a dispatch, the speediest course is, for the Master or General of the Artillery to make use of a sufficient number of Cannoneers for the attending upon the Batterie: and the Work it self is much forwarded by a Trench cast ten foot before the front of the Batterie, where the Souldiers may be lodged and shrowded from the Enemy; and withal it will serve for the traverse of the Guns.

But all this, though never so thoroughly observed, proves defective in the particular of making an assaultable breach, without the use of Mines or Mining: for though the use of Mines at the first coming up of great Guns, was for a time ne-

pleated; yet hath the practice of them been revived, by reason of the perfection of modern Fortification; the which secular demonstration hath evidenced that Artillery is not otherwise profitable for expugnation, then onely to take away Defences. And therefore in this ensuing Chapter we shall advertise somewhat of them.

CHAP. XIII.

Mines, how to be made and used. How to lodge the Powder in Mines.

IN the use of a Mine there is nothing more to be suspected, nor more perious then a Counter-mine from the Enemy: to avoid which, the way whereby it may be done, is to be declined, either on the one side or other, as occasion and the face of the place will suffer.

A Mine therefore is not to be carried in a right line, but courbed and crooked. And the sides thereof are in many places to be bored with long and fit Piercers of Iron, that so the Enemies Counter-mining

may

may be heard; which cannot be so closely nor secretly wrought upon, but by this means may be discovered and heard. In the carrying likewise of a well-contrived Mine, an especial care is to be taken against the sinking and falling down of the earth from above, whereby the Miners may be buried: to prevent which, it is to be well fourred or underpropped with pieces or pillars of Timber, seven foot high if the part will bear it: and the breadth of the Mine is to be five foot, sided with planks and roofed with boards. And if the ground be found over-moist, and stored with Springs of water, it is also to be floored with boards, leaving a small Trench for the water to pass away, or digging some small Wells to the same intent.

The Mine being thus, and in this manner conducted to the destined part, where it is to do execution; a bed or chamber is to be framed for the receipt of the powder: the which being lodged in it to a sufficiencie, is to be very carefully closed up, that no air may enter, save only at that small hole through which the train of Powder is to pass into the chamber or bed of the Mine, whereby the whole mass

of Powder may be fired at the time when it is to do execution. And it is to be observed, that the nearer the passage or the row-fare of the Mine approacheth to the Chamber, the narrower it ought to be, so that though at the mouth of the Mine it may be seven foot high and five foot broad; and at the half way, five foot high and four foot broad; yet at the very chamber it ought not to be larger than onely for the entrance of the barrels. Powder to be put in one after another. But above all things, an especial care is to be had by the Conductor of the Mine, that before he begin his work, he be very attentive and diligent in taking the exact distance that is to be between the beginning of it, and the end; with the precise consideration of all its winding and turns, and verses, that so he may be sure of the right placing of the bed of the Mine, under that part upon which it is to do execution, lest otherwise, not onely the whole labour and cost be lost, but prove prejudicial to his own partie. To which end also, the declination or sloping of the chamber or bed, is to be made parallel to the Scarp of the Wall: for if it decline either more or

less then the Scarp, it will there break forth, because it shall there finde the least resistance; and so in stead of an assaultable breach, make only a small hole in the Rampart. And thus far touching the construction of Mines, and the firing of them,

CHAP. XIV.

Of Breaches, and the Assaults. || How the Ditch is to be passed over.

THe Mine being thus fitted and fired, (before any assault be offered or attempted) the breach is to be viewed, and judged whether it be assaultable or no; and all the Defences are to be taken away, both in Front and Flank. And this is to be done by planting the Cannons in such a manner, that they may thorowly discover them, and hereby the Assaultants put upon the breach with the better security and hope of success, as well in respect of themselves, as of their Seconds and Thirds, if need be.

As for the ordering of the Souldiers which are to assault; some appoint the armed

armed men to be flanked with the shot. Others put the shot in the Front and Rear of the armed men. But for mine own part, I conceive the most approved order to be, that the armed men be flanked with shot; onely placing some three or four ranks of shot in their Front, the better to give site continually upon the breach, until the armed men have recovered the top of it: And during the whole time of the assault, all the Trenches to be furnished with the very best of the shot, who are to beat the Enemy from their Parapets, that they may not give any aid to the Defendants in Flank: And the whole Camp besides to be in Arms, both Horse and Foot; as well for the more terrour to the Defendants, as for the intercepting of the Enemy upon all occasions and interruptions.

And if it fall out that in the assault of the Breach the Ditch cannot be conveniently passed over by the way of Gallies (formerly described) the most proper course in stead of them may be, after the Breach is thoroughly made, and the approaches under the covert of the Trenches brought to the brink of the Ditch.

to fill up the said Ditch with earth and
sagors; towards which also the ruines
and rubbish of the Wall made by the Bar-
bette will much conduce: neither is there
any Moat of standing water, or Ditch so
deep, but by this course may be sur-
mounted.

True it is, that sometimes to this pur-
pose long and great Trees are thrown in-
to the Ditch, covered over, and fastned
together with planks, and shadowed on
the sides with Blindes: But this is not
held so certain as the former, though both
of them are in use where the Ditch hath in-
deed a standing water. But if the water of
the Ditch be a current, and any thing
swift, then the best way is to make a
bridge upon a large boat; the which be-
ing apted and contrived to the breadth of
the Ditch, over against the Breach, is to
have certain Draw-bridges belonging to
it, at each end one, so fitted, that they
may serve for Blindes and coverts also,
to shadow such men as are to conduct the
bridge. And being thus contrived and
manned, it is to be suffered to float down
with the stream from the place where it
was first framed (which must be in a place
freest

freest from danger of the Enemy :) and to be moored and made fast directly upon the breach, that so the Draw-bridges formerly mentioned, being then let fall, the Souldiers which are upon the main bridge may not onely finde a sufficient and well secured passage for themselves, but for the rest of the Army also, (as many of them as shall be thought needful) to assault the Breach, and to storm and carry the Town.

CHAP. XV.

Of all kindes and forms of Battels. Of double Batteries, and the like. How the Guns are to be mounted in double Batteries. Of the Guns proper for Batteries, how employed.

BEfore we leave this subject touching Assaults upon Towns and Forts, and the approaches due unto them; and though somewhat also hath formerly been noted touching Batteries; yet, for the better understanding of them every way, it will be necessary to add somewhat more at large.

Batteries are Mounts of earth, and their Forms are generally thus contrived: the sides of the Works toward the Enemy are to be made Cannon-proof, that is, of twenty five foot in thickness: in the Rear and Flank of them they are to have a Wall of fifteen foot thick; onely the one side of this Wall is to be thicker then the rest, as rising with a Walk and a Parapet on the inside: in their Front they are to be lined with two exteriour Angles, and their faces to be raised with open Windows, or Ports (as they are generally called) through which the great Guns are to play: on their insides they are to have a good groundselling or floor made of Turff, Faggots, or the like; of eight foot in heighth, and in breadth answerable to the greatness of the whole Work. And this floor is to be covered with planks, for the better travelling and reverse of the Guns.

But before the raising or planting of any of these Batteries, especial observation is to be taken, whether there be any possibility or likelihood of succour to be brought to the place against which this Battery is raised: for if there be, then care is to be had, that though the Enemy should

should give on with a main force, yett
 Ordnance upon the Batterie may either
 be retreated or defended. And this may
 be probably effected by firming the Bat-
 tery on all sides, and by so blocking up
 Avenues, and making of convenient Pa-
 rapets, that the Enemy shall not be able
 to make any other accessses, save by the
 very Ports where the Pieces lie. And
 the Battery be of necessity to be planted
 upon a Dike, and thereby may be in pos-
 of being drowned; the heighth of the
 Dike is to be considered, and provision
 made accordingly; and a passage toward
 the *Campagna* to be guarded and kept
 free, that so the Pieces may be carried
 off that way, if there be no other re-
 medie.

And because it is generally necessary
 and especially in some cases, that the Pi-
 ces of Batterie be lodged in secret, and
 much obscured from the Enemies Cannon
 in the Town, as possibly may be by an
 especial course tending this way, may be
 practised by making a convenient descent
 in the Platform; and that in such a man-
 ner, that the Pieces may make their rever-
 ses so downwards, as being reversed may

fully

fully hide themselves from the Enemies view : and then to be drawn up again by pulleys and cords well fastned to the heads of the Carriages and the Wall of the Batterie aloft.

True it is, that these Guns thus lodged are onely to be employed upon the very sick of occasion, and not ordinarily. A second way therefore there is, by making a double Batterie, in this manner. First of all, a Batterie is to be raised with Shoulders and Ports, sufficiently deep, equal, and large, as well before as behind, in such a fashion that thorow them the Enemies Cannon may be discovered in a right line. This done, another Batterie is to be framed, with Ports and Shoulders in a due and answerable proportion, ten foot behind this; from which through the Ports of the other, the Enemies Pieces may also be perfectly seen in a right line. And in these innermost Ports the great Guns are to be mounted : the which nevertheless, by reason of the foremost Batterie, will lie so closely shadowed and hidden, that the Enemy shall very hardly discover them, at the least to any hurt or damage.

A third way to this purpose, may be by the

the choice and laying out of a natural piece of ground; before which a Ditch being sunk to the depth of eleven foot (which will give a sufficient defence for the Guns and those that manage them) a sufficient quantity of ground is to be allowed for the reverse of the Guns, with the distance of twenty foot one from another in the being lodged; having an over-plus of ground behind them, which by the help of Pioneers is so to be sunk, that men may safely pass to and again behind them uncovered; upon which, planks being artificially laid, the Guns are to be mounted. And last of all, Ports are to be cut through the natural earth, to a sufficiency of largeness, depth, and height, through which the Ordnance are to play. And this is the Work so assured, as not to be annoyed or endangered from any part of the Town Wall, if the earth be firm and solid.

As for the Guns proper for a main Battery, as well in respect of number and kinds, they may be thus repartited; eight Cannons, six Demy-Cannons, and four Quart du Cannons or Culverins. Touching the distance they are to be lodged in from the part to be battered, we have spo-

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ten before. As concerning the ordering of these eighteen Pieces upon the Battery: The Cannons are to be planted in one Camerade, and to beat and batter in Angle right against the Curtain: The six Demy-Canons to be divided into two Camerades, on each side of the Cannons three, and to beat in Traverse: The four Culverins are to be employed for Defences, and to play upon the Enemies Pieces that shall be found in flanker of the Curtain from the Bulworks. For though it be true (as aforefaid) that where Batteries are to be laid against Forts and small Towns, where the Bulworks are near one unto another, it is better to batter upon the Bulworks then the Curtains; yet against fortified places of large extent, where the Bastions or Bulworks are far removed, it is more advantagious to beat upon the Curtains; in regard that the Bulworks are better furnished then those Curtains can be: and besides, the Enemy may better entrench himself within the Bastion then within the Curtain; neither can the Bulworks in large Pieces of Fortification bring any extraordinary damage at an assault, by flanking of the Curtains;

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by reason of their distance one from another. On the contrary, true it is, that Batteries made against Castles or Forts, is safest to batter upon the Bulworks: here the Bastions are so neighbouring and Plank with so main a force upon the Curtain, that an assault cannot be given without an extraordinary Carnage, and much loss of Men. And when the Battery is thus upon the Bastion, the same Pieces are so to play and batter in Cavalier, upon the point of the Bulwork, as they did before upon the Curtain.

CHAP. XVI.

*A besieging Army, how to defend it
Presidents heretofore ancient and modern
Observations upon the Siege of the Borneo*

HAVING gone thus far in this way, by the way of Offence, we shall now in this Chapter give some Advertisement how a besieging Army is to defend it when it expecteth to be assaulted by an Enemy, a Friend to the place besieged, or perhaps Master of the Field; which has

befallen both anciently and modernly. And though it be a case of much danger, yet have some expert and wise Commanders provided for themselves and their Armies, to the preservation of both.

The Rules and practices conducing hereunto, have been these: To entrench so sufficiently against the Town besieged, that no irruptions or Sallies may be made upon them out of the Town, to any considerable loss or danger: That all the Quarters be so well fortified in their Out-works, that neither Horse nor Foot from abroad may make any assaults upon them, but with infinite disadvantage and hazard: That a most especial care be taken that the besieging Army be so lodged and encamped, that by some commanded Passage it may be certainly and sufficiently supplied with Victuals, either from some of their own neighbouring parts; or some other Country to friend: And wistly, that the adjacent Country, through which the Enemies Army is to approach, be as much as possibly may be, harried and wasted betwixt hand; that so it may either not be able to victual it at all, or at least very sparingly, and that with much hazard and loss.

And of this, because Presidents were much, I shall set down three: The one ancient, taken out of *Polybius* (in his ninth Book;) which was acted at the Siege of *Capua*: before which the Roman Consul *Appian* being set down, *Hannibal* seeking to remove him, (and being by far Master of the Field) enclosed the Roman besieging Army between himself and the Town besieged; and finding no possibility of forcing the Consul in his Trenches, practised to draw him out to some skirmishes; but failing in both, and weary with many urging inconveniencies, was thus forced to march off, and leave him before the Town: by reason (for the Anchor) that the Romans had been sufficiently victualled themselves before hand, and providently so wasted the Country round about, before the coming in of the *Carthaginians*, that when they came they were not able to abide through the want of Victual, and especially Forrage for their Horse. The Marquis *Spinola* preserved himself in the like manner, at his Siege of *Breda*. But beyond all others, we have a singular President for this purpose, in the last Siege of the *Bombard* which

when that Town was taken in by the United States: In their stupendious Works in the outward Entrenchments, which were no less in Circuit then a good days journey; every where fortified with Horn-works, Half Moons, Batteries, and the like: In their diverting of a River from its natural course, so that the besieged Town was not only deprived of necessary water, but all that part of the Country deeply drowned, whereby the Enemy might have been access to relieve it: In that, to prevent a Relief to the Town by Boats, there was raised a firm Causey of three miles in length, through so washy a place, that it was little less then a Lake; the which Causey was broad enough for two Carts to meet and pass by one another; with foot-paths besides, on each side, and every where strengthened with Sconces, Batteries, and Horn-works, all of Earth: And lastly, in that (which made it fullest of wonder) this world of Earth and Fagots was brought in Boats from a part at the least two or three miles distant.

And yet all these were the Works onely (as one may say) without dores. As for those within, they were the particular

Brest-works, and the strengthening of every Quarter: The Trenches that finished to the Enemies Sconces without the Town; and after they were taken in, carried to the Town-ditch: The Galleries that were laid over the Ditch: And the Mines which were brought under the Wall. So that although the Enemy marched towards us with a very potent army, and every way very well provided yet durst he not (indeed could not) do any thing to any purpose, save onely look upon us as we lay in our Works: but was forced to let fall that important Piece into the hands of such an Enemy, that well knows both how to keep it and make use of it.

CHAP.

CHAP. XVII.

Of Powder: touching the choice and keeping of Magazines of Powder: how to be safely lodged. Victuals, how to be continued. The duty of the prime Conductor. Of the Victuallers or Sucklers.

AND thus far we have touched upon the most of the material Pieces belonging to the first Requirable in the making of a War, and that is, *Munition.*

It remains to take some notice of Powder and Victual, and so to end this our first Book.

And first concerning Powder: Of which I shall onely speak of the choice of it, and the lodging of it when it is gotten. For the choice of it, or the trial of it: That Powder which being laid upon a smooth stone or plank, or the like, having fire given unto it, doth mount upwards with a clear fire and flame, without much smoke, and without leaving any soil or mark upon the stone or plank, may be received for good Powder. On the contrary,

trary, if upon the firing there remain any
moist white substance somewhat blewish
it is a sign that the Brimstone is not suffici-
ently purified, wherewith that Powder is
mixed: if there remain any grains of an
earthly colour, it is an evidence that it
was not well grounded nor cleansed: if
there be whitish grains, it is a sign that
the Salt-Peter is too salt, and neither well
grounded nor purified: if there be seen any
reddish or tawnyish grains, it is a token
that the Coals were not well prepared
if Powder (some small quantity) being
laid upon ones hand, and there fired, it
send not the hand at all, or very little, but
result with a small noise or puff, it is a sin-
gular sign of excellent good powder. As
for the ways of trial without fire: if Pow-
der being bitten by ones teeth, taste moder-
ately salt, it is a tolerable token of its
goodness: if it be of colour not over
black nor obscure, but somewhat tending
to a red, it is a very good evidence of
good Powder.

As touching the safe laying of it up: it
is a most necessary providence for the or-
dering of Powder for the use of an Army
in action, that it be disposed into two or
three

any three several places, and many Magazines, will be better to avoid the danger as well of casual fires, as treasons, and the Enemies surprizes.

And for the safe keeping and certain security of it in Towns, and especially where mighty Magazines are to be provided, it was the practise of a wise Republicke, to lay up the several materials and ingredients in several parcels; as the Saltpetre by it self, the Brimstone by it self, and the Cole by it self; the which upon all occasions might suddenly be fitted for present use: And in the mean time, all the hazards and mischiefs that might otherwise ensue, be absolutely prevented.

And thus much touching the particular of Powder. As for that of Victual, it is obvious to every judgment, that it must be provided according to the number of the Army, and the length of the March, and the nature and condition of the Country that the Army is to pass through. I shall therefore speak onely of the course of conducting it, and of those kinde of people that are to sell it, termed Sucklers.

For

For the order of conduction of Victual
toor for an Army, (especially when there
is perit of being charged by an Enemy
upon the way) command is to be given
that all the disordered multitude of Carriages
and Waggones wherein the Victual
and the like Baggage is to be carried, be
put in equipage either before day, or very
early in the morning of that day wherein
they are to march. And in the first place
some Troops of Horse are to be sent on
to discover upon all the Advantages of the
Enemy: and for the better safe-guard, the
Artillery appointed for their guard may
be usefully placed both in the Van of their
Carriages, and in their Rear; and that
not onely to beat upon the Enemy if he
shall approach by any of those ways, but
by their thundering to give notice which
way the Enemy comes; that so the Soldiers
may take a general Alarm, and according
to former direction repair to the
part that shall most require assistance.
Both sides of the ways also where the Carriages
of Provisions are to pass, are to be guarded
with loose Wings of Horse, and with them
some numbers of Musqueteers may be ad-
vantagiously intermixed, and the best of

the Horse may bring up the Rear. And in this manner may the Carriages march, and be ready to receive any Charge. Diligence is likewise to be used, that such ways of March (as much as may be) be made choice of, as are least subject to amonishments; and that whensoever they are to come to blows, it may be in places of advantage. To which end, either Altes are to be made; or a quick March to be practised, as cause requires. And to this purpose also, good use may be made of Waggon in stead of a Trench, drawing the Souldiers within them when a desperate Charge is attempted by the Enemy.

As for the prime Conductor of these Victuallers and Victual, he is to be the first man out of the Quarter, when these Troops are to march, and to make a stand, and to take a view of them all, and to ha-then them forwards. And when they are well-near all passed by, he is to march in the Rear of all, though now and then he may advance before into such parts as he conceives may most require his presence; but ought to be the last man that takes up his Quarter. He is also to observe that
all

all the Carriages and the Souldiers of the guard be quartered before the dark of the night; that so whilest there is yet some day-light, he may ride round about the Quarter to see that all things be sure.

Care is likewise to be had (if possibly may be) that intelligence be gotten from the inhabitant Peasants, as well of the Ways, as of the Enemy; and that as well for conveniency as safety. To which end all Bridges and Passages are to be known, possessed, and guarded. Spies also are continually to be employed, to gain knowledge, and to give notice of the Enemy's designs. And Centinels in the night-time to be placed upon all Avenues. And if extraordinary strength be expected to assault, it will be necessary to raise some Redoubts and Forts upon the Ways and Passages, and upon all places where the Enemy may opportunely give on.

Touching the Victuallers or Sucklers and Merchants and Artificers which follow an Army; they are not any of them to bring any of their Commodities or Merchandise into the Camp, without licence from the General; who is to command to have them well viewed, lest their

Victual

Victuals should be corrupt, and infect the Souldiers with sickness; and their Merchandise sophisticated, and the Souldier cheated and abused. Nor are these men to sell any of their Commodities but in that part and place where the Quarter-master-General shall appoint, lest disorders grow in the Quarters; nor there neither, but at such times, and at such a rate, as shall be allowed by the Provost-Marshal-General, that so there may be no extortion upon the Souldiers.

And if any of these shall be found Delinquents in any of these kinds, he is to incur the penalty of Imprisonment and Confiscation of his goods. And if he offend against any of the Martial Laws published for the government of the Army, he is to suffer according to the quality of the offence.

And thus we have briefly run through the three principals dependant upon the first Requirable in the acting of a War, comprehended under the Title *Munition*. And so we end our first Book.

A
DISCOURSE
OF
The Requisites in making
a War by Land.

BOOK. II.

*Treating of the second Requirable in
making of a War by Land, which
Men, or Bodies; with other Ma-
terials of War.*

CHAP. I.

*Touching the choice of Souldiers. Of
Officers due to a private Company.*



N this Second Book
I shall give some adverti-
sements touching *Men*
or *Bodies*, wherewith the
Body of an Army is to
be made up: It being the
second Requirable in the general Subject
we treat of, which is *War by Land*.

And

And in the first place, we shall propound some cautions about the election and choice of these men; wherein five particulars are most considerable. 1. That they be rather taken out of barren Countries, and hard breeding, then out of Cities where there is full feeding and ease. 2. That they be young, as rather of eighteen years of Age, then eight and forty: for the one may better be brought to obedience by good Discipline, whereas the other are more apt to obstinacie, and perhaps, vice. 3. That they be of a middle stature, strong of body, and manly looks. 4. That they be of lively spirits, resolute, bold, and well metled. And 5. and lastly, that they be of an honest condition, and not bred up in effeminate and womanish Trades, much less in Debauchments and dissoluteness.

As for the choice of men, in respect of the part where they were born; as whether Natives or Foreigners: I consent with those who prefer the Natives; in regard they are generally more loyal; in that they are more patient, more tractable and obedient; as being every way more interested; in that they are less chargeable,

able, and sooner at hand: whereas Mercenaries and Strangers, as well at going as coming, force longer attendance, greater expences, and are subject to commit many more outrages.

As touching the election of Souldiers at the point of the kinde of Arms they are to carry: Howsoever the strongest and tallest men are generally ordered to carry Pike and the lowest and nimblest to handle the Musquet; yet it is mine opinion, that above all other things, respect and consideration is to be had, to what Arms every man doth best frame himself, and to what he stands best affected. To which end, it is not amiss, that the Muster-Master take notice of it, before he distributeth the Arms to the Individuals.

And for the Composition or number of Souldiers in every private Company (multiplying of which Companies, Regiments are made; and of Regiments, Armies:) Howsoever this hath been formerly much varied, yet in regard of a competent advancement for the Captain, and the performance of his Command, the best and aptest composition seemeth to be of two hundred men with Officers and all;

be divided (if you will go according to the vulgar Discipline) into two equal Bodies, of one hundred Pikes and one hundred Thor : or after the late Discipline with the *Swedes* (the which in respect of the use of the fiery weapons, I most approve) into twelve Files of Musqueteers, and nine Files of Pikes ; and reckoning six men to every File (for so many and no more they use to order the depth) a compleat Company may consist of one hundred twenty six men, besides the Officers.

Now the Officers due to every private Company (to begin at the lowest, and so upwards) are these following.

The Lancepesado, or Launspresado, who is the leading man of the one half of File, and thence vulgarly termed the Middle-man. And this Officer (as the rest of them) taketh his place, either by his antiquity, or the reputation of him under whom he commandeth ; as the Lancepesado in the Generals own Company, is the chiefest ; as he the meanest, that is of the youngest Captains Company of the Regiment.

The Corporal is the next above this ; who is the leader of a whole File, which in

number is more or less, according to the use and custom of several Disciplines.

The next preceding the Corporal, is the Serjeant of the Company; and this Officer hath no settled place or leading within the Company, but passeth to and again to see that the Files and Ranks be well observed in all parts of his Company.

The Drum is the next Superiour to the Serjeant, who ought to be a Souldier as well as a Drummer, and (if it may be) a Linguist, or at the least, a piece of one, that so he may take and give all passages of Parties about which he is to be employed. And these Drums are ranked according to the Officers and Captains they serve under: as, the Drum-Major of an Army is the principal; the Drum-Major of the Regiments next under him, ranked as their Regiments; and then the Drummers of every Company.

The next superiour Officer, is the Bannier, or Bearer of the Captains Colours, who is to be a Gentleman, or deserving to be so reputed. And with us (for the Spanish Discipline admits of no Lieutenant) but their *Alferaze* or Ensignes supply both places) he taketh place next after the Lieutenant.

The Lieutenant of a Company is next above the Ensign ; and in his Captains absence acteth all the Captains duties, and in his presence executeth his Commands.

The Captain is the prime Officer of a private Company, and ought to be as prime in his sufficiency and abilities. And these are the Officers belonging to a single Company. For as for the Clerk of the Band, and the Chirurgion, whereof every particular Company ought to have one of each kinde ; they are not properly to be accounted Souldiers, nor Military Officers, as having no Command ; though the one as necessary for the Captain and Treasurer in keeping accounts, and the other for the Souldiers, in curing their wounds, as any of the rest.

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CHAP.

CHAP. II.

Of the Officers due to a Regiment. Officers having a general charge. Of Officers next inferiour to Field-Officers. Of Officers of the Field, with their Titles and Charges.

AS for the Officers belonging to a Regiment, the lowest of them is the Quarter-master; whose Office, besides the divisions of the Quarters, is to take the lodgings for his Regiment, in the nature of a Harbenger: and he holds rank according to the dignity of the Regiment wherein he serves, and of which he has the care.

The next above the Quarter-master, is the Provost-Marshal, who takes the charge of all Delinquents, as also of all Prisoners taken of the Enemy; and is to see the executions of Justice to be duly performed.

In the rank above him is the Sergeant-Major of a Regiment, who is to be elected out of the most principal Captains, and his Office is to form and embattel the

Regt.

Regiment, as he shall be directed by the Serjeant-Major-General: and he is ranked above all Captains of private Companies.

The Officer next superiour to the Serjeant-Major, is the Lieutenant-Colonel; who in the absence of the Colonel, commands as Colonel; and in his presence executeth his directions and commands.

The supremest Officer of a Regiment is the Colonel; and in dignity is as transcendent to the Captains, as they to the Soldiers. And these Colonels are ranked among themselves, after their antiquity, or the eminencie of their Regiment; the eldest Colonel (who of due is also to be chief Camp-master) holding the first and primest place.

Now besides these Officers of a Regiment, there are certain Officers in an Army-Royal, which though they have a generality of charge, and are superiour in that regard to the Officers of a Regiment, yet are not counted, nor attain to be Officers of the Field: and these are,

The Master-Gunner of the Army, (who is the meanest amongst them;) and he is an Officer under the Master or General

of the Ordnance. And his authority extends over all the other Gunners; every one of which he is to overlook in their several places, and to cause them to perform their Duties.

The next above him is the Trench Master-General; whose commands extend over all the Pioneers, and to the laying out their Works: whether they be to be employed for the Guard or Enclosing of the Camp, or the raising of Scones, the casting up of Brest-works, the laying open of the Ways, or any the like employments.

The Officer next preceding this Trench Master, is the Master of the Waggon; as he hath a general command over all the Waggon, Carriages, Sledges, and the like conveyances; and is to order them in their Marches, and to see them Quartered, and provided with necessary Tools, and the like.

The Officer superiour next to the Master of the Waggon, is the Forrage-Master; being a principal Dependant upon the Lord Marshal; and is to take charge and to dispose of all manner of Provisions for the Horse; and to oversee all the in-

inferiour Officers of that kinde : and to take care that equal distributions be made of those kindes of Provisions ; and to cause deserved executions to be inflicted and imposed upon the Delinquents of that nature.

The next to him in place and office , is the Victual-Master, or chief Victualler ; to whose care and charge is delivered all the food and sustenance belonging to the Souldiers : and (by his inferiour Officers, termed the Provant-Masters) he is to cause distribution thereof to be made to the Souldiers , according to the proportion and allowance appointed by the General.

The Judge-Marshal is the next superiour Officer to the chief Victualler ; who is to be well skilled in the Civil and Martial Laws ; the which he is to explain, and to make known unto the Souldiers ; and to pronounce the censures decreed from time to time in the Martial Courts.

The next Officer preceding the Judge-Martial , is the Scout-master-General ; who hath the command of all the Scouts ; selecteth them, and appointeth them their Stations, and giveth them the directions

which he receiveth from the Lord Marshal. He is also a principal Agent in ordering of the Camp, and informeth the manner of the Horse-Parado when the Watch is to be set.

The Officer next above the Scout-master, is the Lieutenant of the Ordnance, who hath his chief dependance upon the Master of the Ordnance, and stands charged in particular with all the smaller kindes of the Ordnance, and Munition belonging unto them; and in the absence of the Master, he commands as Master.

The last, but chiefest of these kindred Officers, is the Muster-master-General, whose duty and office is to take the number and musters of all the Army. He is also to have a care that they be well armed, and their Arms in good order, and in point; that the particular Companies be kept full. He hath also under his command and controul all the inferiour Muster-masters or Commissaries, and is to give out all the Warrants for full pay; and checketh all gross defaults. And this Officer, though he be none of the Officers of the Field, yet is always to be one of the Council of War.

The highest rank of Officers in a Royal Army, are those stiled the Officers of the Field; the lowest of which kinde is the Serjeant-Major-General, who is ever to be of the Council of War; And he hath the Supervisorship of all the Serjeant-Majors of the Army. This Officer in the Swedish Discipline, is termed the Commissary-General.

The Colonel-General is the next superior to him; upon whom resteth the hearing, and composing, and ordering of all differences of any high nature. And he also is evermore to be one of the Council of War.

The Lieutenant-General of the Horse, is next in order of precedencie; who hath the same Command amongst the Horse, that the Colonel-General hath with the Foot; and by his place is always one of the Council of War.

The chief Treasurer of the Army hath the next precedency; and he is under no command save onely the Generals. He is to fix his respect thorowout the whole Army; and in peculiar, is to have an Eye upon the Auditor, Muster-master, and Commissary of the Army, in relation to their ac-

accounts. He also is by his place to be one of the Council of War.

The Master of the Ordnance is the next above him, and is a principal Officer of the Field; as having under his command all the Artillery, Munition, and the whole Train belonging unto them; and constantly one of the Council of War.

The Lord Marshal hath the next place of precedencie; and his commands stretch every way both over Horse and Foot. He hath also the prerogative to make good whatsoever shall be found fit in point of Martial Law. And I have known him in the absence of the Generalissimo, to have the command in chief: But this was when there was no Lieutenant-General. He is always a Counsellor of War.

The Lieutenant-General is as it were the younger brother to the General himself: for in his absence he hath his sovereign authority, and the absolute command of the whole Army; and at all times is as it were the Superintendent over all of them.

The General is he that ruleth all; so that it is to be expected that he should be every way also as supereminent: And this rather

rather, in regard that in an Army there is to be but onely one Generalissimo. For though it hath sometime been seen that two men have been put in this Command with equal Commission, yet do I not remember that ever any Army so commanded returned with Victory.

CHAP. III.

*Of the Exercising of a private Company.
Of the giving of Volleys of small shot.
The Swedish way of giving Volleys of shot.
How to give Volleys of shot in a narrow path. The Discipline of Marches. Of the understanding of the Drum.*

HAVING thus far made up the body of an Army with Bodies, and fitted them with Heads, we shall now bring them into action: And in the first place, give some general Rules concerning the Drilling and Exercising of a private Company, and so proceed to the whole body of an Army.

To Exercise a Company exactly, it is to be divided into three Corporalships; and then

then subdivided into as many Files as the number will bear ; and every File into Fellowships or Cameradoes. The Corporal of every Corporalship is to be the leader of the chief File thereof ; and the Lanceprifado (who in the Corporals absence, when he is upon the Guard or elsewhere, executes the Corporals duties) is to lead another File ; and the practick and ready men of every Corporalship are to lead the rest.

The Company being thus divided and ordered, these things are mainly to be taught : the carriage and use of Arms, Marches and Motions ; and the understanding of the sounds of the Drum, and words of Command and Direction ; which are rightly termed the Souldiers *Vocabulary*.

Artic.

The carriage of Arms is to be appropriated to the most of comeliness and use. The use of the Pike, is either in receiving or giving a charge. By being taught the first, the Souldier learns to withstand the Horse ; by the second, to encounter with the Enemies Pikes, and to understand when and how every man, and so every rank are to give their push or blow.

the use of the Musquet, the Souldier is first to learn how to present his Piece, how to take his level, and when to give his Volley with those of his Rank.

Now the ancient and vulgar manner of Discipline for the giving of Volleys of shot, was, that all the shot of one Corporalship should give fire at once. But this was absolutely condemnable: for either those in the Rear must hazard the shooting of their leaders through their heads; or else over-shoot the Enemy, and spend their Powder in vain. And besides, the Volley thus delivered being once given, the Enemy may come on without impeachment of annoyance. In stead of this therefore, a more useful practice hath been, to order the first Rank onely to give their Volley; and if the body of the Company march, then that Rank that hath given the Volley to stand; and the second Rank to pass thorough it, and to give their Volley, and then they to stand; and then the third Rank to advance and give fire: and so to all the rest of the Ranks in order. If the Company, or Brigade, or Battalion stand firm, then the first Rank having given their Volleys, are to fall back, and

and the second to come in their rooms; and so the third, fourth, and the rest. And by this course (the men being commanded men) the Volleys may be continued, and the Enemy never free from annoyance. And all this is easily performed, if at the first all the shot be caused to open their Files to open distance.

But because even this also is defective in respect that there cannot be brought so many hands to give fire at once upon the Enemy, as were to be wisht; there is a Souldier the late King of *Sweden* disciplin'd his shot to give fire three ranks at once: and this was done by causing the first rank to give their Volleys upon the knees; the second somewhat stooping over their leaders heads; the third rank standing upright, to give their Volley over all their heads: and this to be done at one and the same time. And by the means and course was poured more Lead upon the Enemy at once, then otherwise by far, by any of the other ways.

And this manner of giving fire needs also be very useful and advantageous in all Wood-Services, and wheresoever an Enemy is to be encountred in narrow

Lanes

Lanes or Paths, where men cannot be led up but in a single file : for if the three first men thus giving fire, be instructed after they have given their Volley to place themselves close up by the sides of the path where the Enemy presents himself, and so stand there sidelong towards the Enemy, and give place for three others of their followers to advance and do the like ; a continued Volley of Shot may be thus delivered, although the whole file of men should consist but of fifteen in all.

As for the Discipline belonging to Marches ; after every man once knoweth his proper place, and understandeth how to observe his file and rank, there is no difficulty at all in a plain march. In a Counter-march also, if the leaders of the files be well chosen, and that every man observe his leading man, there is no great difficulty neither. As touching motions, some are performed without change of place, by turning onely their faces to the right hand, or to the left, or about, as the Enemy is found to charge either in Flank or Rear : Some require a change of place, and these motions are performed by removing from one rank to another ; and then

then some move, and some stand still. And these kinde of motions are called doublings of ranks, and doublings of files, as the Enemy or Ground shall give cause, to make the Front or Flank greater or lesser. There is besides these another kinde of motion to be taught, in which all do move, and yet none do march: And this is done by the opening and closing of files; and is practised not onely when one rank passes thorow another, or the whole Brigade to make a Counter-march; but also when there is an intention to draw the Troop together in haste, and yet in order march to the one hand then the other. And thus far only shall be spoken in this place concerning Motions; intending to speak more at large of the use of them hereafter.

Concerning the understanding of the sound of the Drum; the Souldiers are to be taught not only to know and observe what the Drummer beats, but what time he keeps in beating; that accordingly they may hasten or slack their marchings, by the voice they are called upon to other motions, of which likewise we shall say more, as occasion shall require.

CHAP. IV.

Of great Guns due to an Army-Royal: of the kinds and choice of them. Of the number of Horse to draw great Guns. The best way of drawing heavie Guns.

WE have gone thus far towards the proportioning of the body of an Army, as to bring the Men or Bodies together, to fit them with Chiefs and Commanders, and to give them some knowledge in the use of their Arms: We have likewise spoken in the beginning of our first Book, of such kinds of Arms as are fitted for the persons of men, and are portable in their hands. It remains that we give some advertisements touching those kinds of Arms or Weapons which are to be carried with Armies, but are not portable by the men. And these are comprehended under the name of Artillery, or great Guns; of which though we have spoken somewhat in the former part of this Treatise, yet it was onely of such as were to be lodged in Forts and Towns of War, and to be employed against them;

I and

and not of those to be used in the Field, and to accompany and march with an Army.

We shall therefore in this Chapter and the next, take notice of the great Guns requirable for an Army-Royal; together with their kinds, carriages, casting, numbers and choice. And we will propose this Army to consist of forty thousand men; of which, thirty four thousand be Foot, and six thousand Horse; which is a repartition that may hold proportion with all other numbers, if reduced answerably.

As for the number therefore of great Guns requirable for such an Army in march: It hath been regulated (after much debate) by some experimented Commanders, that for every thousand of Soldiers there should be allowed one piece of Ordnance; and so for forty thousand men (as here propounded) forty great Guns. But for mine own part, I finde not that this can be brought to any certainty: who knows not but that several occasions in different ways, and particular accidents may, and must alter the proportion: that herein no other Law or Rule can be precisely prescribed, then what opportunity

my offers, and necessity urgeth. Nevertheless, if I should be put to it, to set down a strict and precise number of great Guns for an Army of forty thousand men, I would sooner propound thirtie pieces then more. And my reasons are: First, in that thirty great Guns disposed and well ordered, at the Angles of the Armies Front, shall sufficiently serve upon all approaches in Enemie, either whilst the Army marcheth, or when it is to be ordered to fight. Secondly, in that these thirtie pieces shall be sufficient also, (duly chosen) for the besieging and battering of any place, though there should be a constraint of raising two Batteries, having each of them three Camerades in six mounts. And lastly, in that by thus lessening the number of the great Guns, as much as may be, there may withal be a lessening of the number and Train due unto them, with the expence for the furniture, and the charge of the Draught-horses, and their carriage: together with the like rest of the avoidable pressures.

Touching the Kindes of such great Guns as are most proper to answer all the occasions of an Army-Royal: they are

(in my opinion) to be Cannons of Battery, Demy-cannons, those called (by the French) Quart du Cannons, Culverins, and Field-pieces : thus to be repartited; Of the Cannons nine, of the Demy-cannons eight, of the Culverins (or Quart du Cannons) six, and of the Field-pieces seven. The Cannons to be employed for battery on the Assieges; and the rest, as well for the lowering of the *Campagna* on all sides, as to play upon all the Avenues of the Enemy when they come near. And besides, being thus ordered into these kinds, they cannot be so over-topped in the largeness of the bores, but that the Enemies bullets upon them, may from some of these be returned upon those that sent them, and hereby that scarcity and defaukt of bullets supplied, which by many occasions and accidents may befall the best provided Army that is.

And an example of the neglect hereof, and the ill that succeeded upon it, we have in the Wars between *Charles* the fifth the French King; where the Emperor getting Intelligence that the Artillery belonging to the French Army were all of the smaller kinds, gave order

the Master of his Ordnance to furnish his own Army with such Guns whose calibers or bores were greater then those of the Enemies; whereby it came to pass; that in a long play of the Ordnance of both sides one upon another, the French fell in want of bullets, whereas the Imperialists had abundance; these being able to retort and make use of the Enemies bullets, but not those of theirs: whereby the Imperialists at that time obtained a remarkable Victory.

As for the number of Horse requirable for the draught of these several kinds of Guns formerly mentioned: For every Cannon there are to be allowed three and twenty Horse in fair and level ways; and in foul and uneven, thirty. And this is also when the Cannon is to be drawn in a Waggon or Cart: for if it be carried in its proper Carriage, there are never less to be allowed then thirty Horse in the evenest and fairest ways. For every Demycannon are to be provided fifteen Horse at the fewest; and seventeen in foul and hilly ways. For the Culverin and the Field-piece, nine Horse in fair ways, and ten in foul. But withal, give me leave

signifieth this caution: that for the Carriage
of many Cannons, and those heavy Guns,
it is far more commodious and safe always
to employ the long kinde of Waggon
with lofty Wheels, then to have the
Pieces drawn mounted in their proper
Carriages: And the reasons are: That
there shall not need to be so many horses
for the draught of a great Gun in a Wag-
gon, as when it is in its Carriage: That
the Waggon by reason of the height of
its Wheels, and its lightness, is fitter
better able to pass thorow all foul, sandy,
moorish and moist ways, then the Carriage
can possibly be: That these kind of
Waggons are not onely commodious for
the portage of the great Guns, but (if need
require) for the conveyance also of many
pieces of Timber for the building of bul-
warks, and the carriage of them, or any
other the like occasions. And besides
if an Enemy should attempt an assault, or
give on upon any encampment; these
Waggons may most aptly and advantage-
ously be used for the Baricadoing of the
Avenues, and surrounding of all the Quar-
ters of the Camp; and that on a sudden,
the nature of a slight Trench: so that the
Enemy

Enemy, and especially the Enemies Horse, shall not be able to charge home, but with great disadvantage and loss.

And if against this portage of these Guns in VVaggons, it shall be objected, that they cannot be so readily employed upon sudden Alarms and Onsets of the Enemy, as when they are drawn in their own proper Carriages; it may be replied, that all such sudden alarms may as well be answered by the lesser sorts of Guns, which at all times may march in their own Carriages, as by the Cannons and higher pieces: for these perform the work as well far off as the Cannon doth. And besides, whensoever the march of an Army is orderly marshalled, and the Avant-guard providently ordered, an Army cannot be so assaulted on a sudden, but that intelligence may be gotten, and a sufficiency of time found to mount and order these great Pieces upon their proper Carriages, out of the VVaggons, by Gins and the like Engines, which are constantly to accompany them; and so be brought timely enough to the angles of the great divisions, and with all freedom perform all executions upon the assailing Enemy. And

whilest this is in agitation, the lighter and lesser pieces carried mounted upon their proper Carriages, may play at random, and so retard, amuse, and annoy the attacking Enemie, and gain time. And thus much concerning the kindes, number, and portage of great Guns fitted and appropriated for a Royal Army consisting of fortie thousand men. We shall in the ensuing Chapter prescribe some rules how to cast great Guns, and to finde where they are faulty, that they may be refused: how to avoid the accidental causes of their shooting awry; how to know when they are sufficiently fortified; how they are to be cooled and cleared; what quantity of powder belongs to the due lading of every Piece; and what the weight of their shot is: with some other particulars of their nature.

CHAP. V.

Great Guns, how to be cast, and chosen. Of Guns unequally poised, and cast with Hopper-cambs. The accidental causes of shooting awry of great Guns. How to shoot at a moving Mark. How to fortifie great Guns: how they may be discharged without cooling. Of Guns lying long charged. The due charge of Powder and shot for great Guns. The Dispart of great Guns, how to be taken. Touching the laying of Platforms. Of the necessities dependant upon great Guns.

Such great Guns therefore as are cast Taper-bored, that is, not carrying an equal bore, or having the metal thicker on the one side then on the other, are to be refused: for with such, no Gunner can make a straight or certain shot; neither can such pieces be any ways rectified but by a new casting. And if a necessary force the use of any such, care is to be taken that the choice of the shot be made under the size of the bore, lest it stick upon the crooked

crooked side or part, and endanger the breaking of the Piece. And in making the shot, or ranging of the level, consideration is to be had to the side of the Piece that the crookedness enclineth unto. In such Pieces likewise whose bores, though they be straight, are yet more inclined to one side of the metal then the other, great heed is to be taken that they be not laden to the full of their powder; for they will undoubtedly break: nor is it possible to make a right shot in any Gun, by reason that the aim or level cannot be taken from the midst of the bore, unless a due allowance be given to the part and side towards which the bore's concavity is most placed, and so to be ordered and aimed thereafter. And in respect that many pieces of Ordnance, especially such as have been much used, become sometimes more enlarged at the muzzle or mouth than in any other part of the bore; it is therefore a necessary providence that for a sudden service, the shot to be used in these Guns, or such-like Guns, be not chosen to the full height of the bore at the mouth of the Piece, but rather of size under; lest in a hasty loading, the shot

lick by the way, before it fall up close with the powder: in which case it cannot be filled but with art and time, nor the Gun to be used without extreame danger in the mean time.

Such great Guns also as are unequally and improperly poised, are to be held faulty; and such whole Trunnions are not duly placed: for hereby they either become too weighty at their breeches, and so upon every discharge start up with their barrels; or else over-heavy before, and set under-sink as much that way; so that no Gunner whatsoever, be he never so skilful an Arts-man, can make a sure shot with any such. For it must necessarily follow, that the shot will hereby be carried either over-high or over-low towards the mark that is aimed at.

Those great Guns likewise that are full of pores, cracks, or small holes, (which are termed Honey-combs) within their cavities, are by all means to be avoided: for unless upon every discharge they be thoroughly washed and sponged with water or vinegar, whensoever occasion requireth a sudden recharging of them, the Gunners that use them become in eminent

nent peril, by reason that some sparks of fire may and are likely to lie hid within these holes, and thereby the Ladle full of Powder fired, as the Gunner is conveying it home into the chamber of the Piece. Now the ways to finde out and discover these Honey-combs, may be (if the weather be fair, and the Sun shine bright) by traversing the mouth of the Piece directly against the beams of the Sun, and then holding a Looking-Glass in such a manner between the Sun and the mouth of the Gun, that it may carry the reverberation of the Suns beams into the hollow of the Piece, that by the light thereof these pores and holes may thus be visibly discerned. A second way there is to this purpose, by taking a Wax-candle, and fastning it to the end of a strait staff, and lighting the candle, so to put it into the bore or cylinder of the Gun. And by any of these means, these Honey-combs may be thoroughly discovered, wheresoever they are, by the eye.

As for the accidental causes of shooting awry out of great Guns, they are many; of which the Gunner is to take notice: As, when the Trunnions of a Piece

are not placed directly one against another: when the plat-form lieth unequal, with the one side more elevated then the other: when one of the wheels of the Carriage is any thing higher then the other: for then the shot will incline to the lower wheel: when one wheel is more streight upon the axle-tree, or more greased then the other: when one wheel stands upon softer ground then the other: when the opening of the Carriage is more on the one side then on the other: when the Carriage is over-large, so that the piece lieth not firm. Consideration is also to be had of the Wind, and an allowance to be made of the weathering of the mark. Care is likewise to be taken, lest some stone or the like impediment lie in the way of the wheels reverse. In all which particulars, a considerate Gunner is to be very observant: for any one of them being neglected, will assuredly deceive in the point of shooting right. And by this also it is apparent, and must be confessed, that touching the certainty in shooting right and direct out of great Ordnance, though it be much to be affected, it is nevertheless very hazardously attained,

It

It is likewise to be observed, that in making of any shot out of any great Piece, and especially when it is intended upon Squadrons, or main Bodies, either of Horse or Foot, standing fixt; It is more beneficial to under-shoot the mark, then over-shoot it: for so, if the place afford any stones or the like rubbish, the fall and beating of the bullet upon these, will effect more to the Enemies damage, then the shot it self can, though it hit the very mark that is aimed at; whereas the over-shot executes not at all any way. And in the making of a shot at a moving mark, be it at a Boat, or Ship under sail; or a body of Men or Horse in a swift march, consideration is to be taken whether the motion be towards you, direct upon you, or in passing by you; and the Gunner is to lay his Piece accordingly, and to give fire, that the shot may fall just in the way.

An especial care is also to be taken in the casting of great Guns (by such as are either to over-look them, or to make choice of them) touching the point of their being sufficiently fortified. Of which I will give instance in the Cannon extraordinary, and the Cannon ordinary; and

in the extraordinary Culverin, and the ordinary Culverin.

The extraordinary Cannon in the circumference at the chamber, is to be of 8 calibers, at the Trunnions 6, and at the neck $5\frac{1}{2}$. The ordinary Cannon is to be

in the circumference of the chamber $7\frac{1}{2}$, at the Trunnions $6\frac{1}{2}$, at the neck $5\frac{1}{2}$.

The Culverin extraordinarily fortified, is to have in circumference at the chamber, at the Trunnions, at the neck.

The ordinary Culverin, at the chamber calibers, at the Trunnions and at the neck.

As for the lesser pieces, they may all of them be regulated by these proportions, according to their several kinds and quantities. One

ly is to be observed, that the lesser the Pieces be, they are always to be so much

longer, and the better fortified in their muzzles; and this as well to provide against

an over-violent reverse, as to preserve them from lying over-short in their Ports;

and also that by their extraordinary fortifying, they may the better endure often

charges.

As for their Ports, we shall onely add here, that they are to be in their sizes accord-

cording to the greatness and size of the Guns that are to be placed in them: And thus for a Cannon, the innermost part of the Port is to be three foot in the largeness; the outermost, twelve. For a Demi-cannon, the innermost part to be three feet, and the outermost nine; and for the rest proportionably. And to give competencie of place upon the Platform where these Guns are to lie, and be conveniently managed, charged, and refreshed, there ought not to be less distance then twenty foot between Port and Port, so that the wheel of the Carriage of one Piece, of one Gun, may be fifteen foot distance from the wheel of the other. And these Ports are on their insides to be raised from the floor of the Platform as much in height, as they are in largeness; and their insides to be as much flented down, that so the Pieces may be traversed to go downwards upon all the Avenues of the Enemy.

As touching the number of discharge that great Guns may endure, suddenly one after another: It is held that in the best of them as are extraordinarily fortified and re-inforced, (as aforesaid) ten should

may be allowed for a convenient number to be made out of one Piece, in one hours space; and eight out of those that are less fortified. But with this caveat, that after forty shot given even in this manner, the Guns are to be refreshed; for there is nothing that more causeth the decay of great Ordnance, then the often hearing of them; in which regard, it is very good providence that they be refreshed often, and especially in hot weather, or a hot Country.

Now the ways to refresh them, are by the use of fair water mixed with vineger; and upon urging occasion, to wet Sheepskins or the like herein, and so to lay them on the outside of the metal of the Gun, and there to let them lie until the heat of the Piece be sensibly found to be allayed. The use of Lie also is very commendable in this case.

Gunnners are likewise to take notice, that such great Guns as have layen long charged with their shot in them, are not to be given fire unto on the sudden as they are, because the shot may in all likelyhood be rusted within them, and so in the discharge may hazard the breaking of the

Piece. They are therefore first of all to draw out the wad lying before the shot, and then to loosen the shot with the Ladle, and if it may be, to get it out. But if the shot be so rusted as not to be stirred by the Ladle, the course then is to abate the muzzle of the Piece, and to pour into the touch-hole so much water as may drain away the force and best part of the strength of the Powder, and then to put into the concavity of the Piece by the touch-hole, so much fresh powder as may only serve to blow out the shot: which may thus be done, with all facility.

Having thus delivered some cautions touching all these particulars, we will conclude this Chapter with giving some advettisements touching the due quantity of the powder, and the weight of the shot belonging to all these kindes of Guns formerly mentioned: together with their severall lengths, and the lengths of their Carriages; as also of their severall ranges at point-blank, and at their highest elevation: mentioning withal, some necessary observations touching their Dispositions and their Platforms, and the proportionable

tionable necessities due unto them all.

And we will begin with the whole Culverin, which shoots a bullet of twenty pounds in weight; and the Powder as well gross as refined, after the said proportion of four or three fifths: the length of the Piece being of thirty two Calibers, which make sixteen Geometrical feet; the level range six hundred steps; the farthest range seven thousand one hundred and forty steps.

The Demy-Culverin carries a bullet of ten pounds in weight, with $\frac{1}{2}$ weight of fine powder, that is, eight pounds: the length thereof thirty three calibers, which make thirteen feet; the level range four hundred and fifty steps; the highest range five thousand three hundred seventy three steps.

The Saker shoots a shot of five pounds in weight, and as much of fine powder: it carries a length of thirty five calibers; the range point-blank three hundred and fifty steps; by elevation, four thousand one hundred thirty nine steps.

The Falcon carries a shot of two pounds and an half, with the like weight of powder corned: the length thirty six

calibers; the level range, two hundred seventy nine paces or steps; by elevation, three thousand three hundred eighteen.

The double Cannon shoots a ball of ninety six pounds in weight, of corned powder fortie pounds. It is to be in length seventeen calibers; the level range, six hundred paces; at the highest elevation, seven thousand one hundred and forty paces.

The single Cannon carries a shot of forty pounds, the powder twenty pounds; the length, eighteen calibers; the level range, five hundred steps; at elevation, five thousand nine hundred sixty eight steps.

The Demy-Cannon shoots a shot of twenty four pounds, with twelve pounds of powder; the length, twenty calibers; the level range, four hundred twenty five paces; at elevation, five thousand seventy steps.

The double Culverin, being of Brass, its charge of powder amounteth to forty pounds, when serpentine; of corned powder thirtie five pounds; the weight of the shot, fortie pounds: the length of the Piece, one and thirty calibers; the

level range, one thousand three hundred sixty four steps; at elevation, eight thousand one hundred sixty seven steps. And these kindes of Bra's double Culverins, I believe carry the farthest of any others; for the farthest range of the most renowned Pieces that ever I heard or read of, hath not been observed to have been much above three English miles; and therefore these steps formerly mentioned, must be understood of single strides onely, and not paces, which are as much again.

Touching the dispart of great Guns; he cannot be any true pretender to Gunnership that knows it not; it being the disparity betwixt the circumference of the Piece at the breech or chamber, and that of the muzzle. Hence is it that in the laying of the Piece upon the level range, a consideration is to be had, that the muzzle of the Piece be so much abased, as may answer to the over-thickness it hath at the breech, beyond that of the mouth; that the concavity or cylinder of the Piece may be brought to shoot in a level line right forwards.

Now this dispart may be taken divers ways; of which one of the most readie

is, by putting a small twig or piece of wood into the touch-hole of the Piece before it be laden; and so to take the precise depth from the superficies of the metal to the bottom of the Bore or concavity of the Piece; and then setting that measure at the mouth of the Piece upon the lower side of the cylinder; so much of the measure as appears above the metal of the muzzle, is to be received for the diameter of the Piece; and so the Gun being to shoot right forwards in a strait line, to be so much abated as may bring the very top of the measure with a direct level upon the mark that is aimed at.

But because even this way of taking disparts (and indeed much more all other ways) will take up more time then can be allowed in a sudden and hot service; it is the part of a true Gunner to carry the several disparts of all kinds of Guns well fixed in his mind and consideration; that without any more adoe, he may be able to allow every kind of Piece the due dispart; that is to say, a sufficient thickness of the muzzle, to answer the thickness of the chamber. And this to be done only by discretion and judgment.

As for the laying of the Platforms whereon great Guns are to be mounted upon their Carriages, in respect they are very essential to the point of their quick use and employment, as well as to their shooting right; some Gunners have advised that the hinder part of a Platform should be raised far higher than the fore-part, to facilitate the traverse of the Gun into the Port after its discharge and reverse. But for my part, I shall not wish it to be elevated above one foot at the farthest; for hereby the balls will be caused to fall short, by reason that the mouth of the Guns must needs be swayed downwards in their reverses, and the Piece it self is thrown upon the Port with its own weight, that for the recharge, much both of time and labour will be required to reduce it. And besides, if the Enemy have any great Guns in a counter-beating upon the Ports at the same time, they must needs execute dangerously upon all such as are to attend and manage these Pieces, and are to stay any length of time at or about the Ports. And therefore (as I said before) a moderate elevation of the hinder part of a Platform may be commendable,

ble; but by no means to be over-high nor lofty.

Touching the proportions of necessities requirable for great Guns (with which we will end this Chapter) they are as followeth. To every Piece of Ordnance of what kind soever, belong the Charger or Ladle, the Sponge, the Coins, the Bell, and these besides the body of the Carriage. As concerning the Carriage it self, an especial heed is to be had that the Ax-tree be sound and strong; that the wheels be perfect and fit, with a convenient quantity of Grease or Tallow due unto them, to facilitate their reverses.

And for the use of the Guns, in point of shot and powder, the proportion of one hundred great shot for every Piece may be held convenient; with an answerable quantity of powder; the which is to be proportioned after the sizes of the Pieces as was formerly noted.

And thus we have run thorow all the particulars belonging unto the Train of the Artillery requirable for an Army consisting of forty thousand men. It remains only that we advertise somewhat touching the Officers and other attendants due unto the Train.

CHAP. VI.

*The Officers belonging to the Artillery;
their peculiar duties. Some advertisements
for Gunners.*

THe peculiar Officers of a Royal Train of Artillery, are these; the General or the Master, his two Lieutenants, the Treasurer, the Pay-master, the Master of the Munition, and a Muster-Master. And these being the prime Officers, are to be nominated either by the Prince himself, or the General of the Army. The inferior Officers to these, are the Gentlemen of the Artillery, the which in an Army of forty thousand men, with the Train of Artillery answerable to it, ought to be fewer then fifteen; and this proportion may be held according to the number of any Army. The Conductors are to be twelve, the Constables four, the Gunners fourscore, the Porters two, the Farriers two, the Smiths two, the Carpenters ordinary four; to which, as aids, are to be added the Carpenters extraordinary, with their chief, in number thirtie; the

the Miners, with their Commander, fifteen; the Engineers for fire-works, two; the Engineers for Fortification, two; the Porters, six; the Provost, one, with his Lieutenant and Halberdeers; Quarter-master, one; Physician, one; Chirurgeons, two; Apothecary, one; Pioneers to lay smooth the ways and make them passable, at least one thousand. And if there be any passages by water to be expected, it will be necessary to have one hundred Sea-men, or at the least, men in some reasonable manner to those affairs. And for the comfort of all the souls, there is to be a Minister of God's Word, to take the charge of them in that nature.

Concerning the peculiar duties of the forementioned Officers, those of the port are sufficiently known, and are to be of ability to oversee all the rest, and as well to direct them, as to take and give account of them; and some of them have been forementioned. As for the rest, the charge belonging to the Gentlemen of the Artillery, is to take the care of all the Train, and especially of the Guns themselves in a march; to be always in guard there.

theseof in the Quarters: and in point of Battel and Service, they are each one of them to take two or three Pieces into his particular care: they are to sollicite the Gunners to ply their Ordnance, and to bestow them well and profitably. In the planting of the Batteries they are to attend the General; and being well armed, to advance in all places of danger, and not to suffer him to be over-engaged in his own person. They are to inform themselves thorowly, as well of all the Defences of the Enemy, as of the means of disabling them. And lastly, they are to overlook the Pioneers, and such as labour at the Batteries, and to cause them to act their part diligently and usefully upon all occasions.

The peculiar duties of the Conductors of the Artillery, are to take the charge of the Waggon and Carriages belonging to the whole Train, and to cause them to be moved according to instructions from the General. They are also to see all the Powder and Shot to be safely lodged and guarded. They are all of them, every one in his allotted place, to be present at the Batteries, and there to execute duly and

and diligently whatsoever the General shall appoint.

The parts and duties of the Constable of the Artillery, are to lay out and defend all the Ports of the Batteries; to visit the great Guns when they are in their Quarters, and to see them in point; to see them conducted to the Batteries, and delivered up to the Gunners, with all the appurtenances belonging to them; Coins, Levers, Ladles, Sponges, Rammers, Shot, Powder, Wads, Tackling, and the like. They are likewise to take a survey, and to advertise all the due Refreshings of the Pieces, and to make them known to the Lieutenant and the Gentlemen of the Ordnance. They are to Caliber and fit all the shot to the bore of every great Gun, and to see them laid in heaps by every Piece. They are also to have a care that the Gunners be sufficiently fitted with Linestocks, armed with their short swords, provided with their Powder-horns and priming irons of all sizes, and with their Compasses, Quadrants, and the like necessities. They are also upon the casting of any new Piece to visit them carefully, and to cause them to be every

may ordered according to commands and directions from the General.

As for the Office and duty of the Gunners, it being generally known what they are to do; and some printed Pamphlets teaching how to do it, I shall not enlarge my self farther that way, then onely to give some few Caveats: And shall in the first place advise, that before any admittance be made of any such, the pretenders be thorowly and impartially examined and put to the Test by the Master of the Artillery, or some able and honest men, substituted to that end. And for the ease of these Substitutes, I shall presume to put them in mind to observe unto their Gunners these few particulars following, which perhaps are not so carefully heeded as it were fit and behoveful in these cases. As,

That in the lading of their Guns (especially if time and leisure may allow) after the second Ladle-ful of powder is conveyed into the chamber of the Piece, and there well settled by the Rammer, care be taken that the concavity of the Piece be thoroughly cleansed by a drie Sponge, or convenient Wad; lest by the remainder of some grains of loose powder in the way, there

there accrue some peril by the rowling down of the shot, which may fire by the way, and fire the rest of the powder in the chamber, to the spoil of the Gunner: That in the letting fall of the shot into the cavity of the Gun, when it is charged with powder, an especial care be had that the shot be first well cleansed; and that no piece of any sandy or stony substance be fixed unto it; the which may prove danger, both by lodging of the shot by the way before it get home to the powder, and by hindering the free issue of it upon the discharge: That the Gunner in the lading of his Piece, stand not before the mouth of it with any part of his body, lest he be spoiled by some accidental firing of it, caused by some secret hony-combe, or the like.

And thus much touching the peculiar duties of the prime Officers belonging to a Train of Artillery. As for the rest of them, their very names speak the nature of their duties, and therefore deserve no farther description.

CHA

CHAP. VII.

How an Army is to be conducted in a march. Of the Horse and Foot, and great Guns marching in the Van. Of the Horse and Foot and Guns marching in the Battel and Rear. How to march, the Enemy being in view. Of the Artillery, when forced to march apart. Of the conveyance of the Carriages in general. Of the conduction of an Army over Rivers when the Enemy follows in the Rear, or lies on the further side. Of a Bridge for the passing of an Army over Rivers; and of passing by a Ford. The best kind of Bridges for the passing of Armies over Rivers.

WE are now come to the conduction of an Army in a march, wherein in the first place, it is requisite that the Conductor be well informed of the nature of the Country through which he is to carry the Army: as, whether it be Champion or Mountainous, whether subject to Marishes or not. And especially he ought to be careful to be well provided with sickly and trusty

trusty Guides. And upon the consideration of the nature and condition of the Country, he is to determine the order of the march.

As for example: an Army made up of forty thousand men (which number was formerly propounded) being to march in a Champion Country in order of battel, and the Enemy near, may be thus marshalled: First of all, in the point before the Fore may march five hundred Horse, being Cossacks or Cuirassiers, repartited into more or fewer divisions, as occasion shall require: And these are in the nature of a Forlorn-hope, to make discoveries upon all the passages on all sides, and to clear the Woodie places of all ambushments. Next after these, may march two thousand Foot, divided into more or fewer bodies, answerable to the Horse in the point: And they are as well to serve for a Second or Reserve to these Horse, as to defend that part of the Artillery marching in the Vanguard. After these two thousand Foot, the division of the Artillery for the Vanguard of the Army is to be ordered, with the requisite Waggones of great shot, powder, coines, and the like necessaries; as

companied with a sufficient number of Pioneers, to prepare and lay open the ways and passages, and to make needful defenses. And in this division there are to be of great Guns, four Field-pieces at the least, mounted on their proper Carriages, and attended with one Waggon of powder, and another of shot, with all things answerable, commanded by an experienced Lieutenant, with some of the Gentlemen of the Ordnance and their Gunners.

After this division may march four Culverins, with a Waggon of powder and another of shot, with the appurtenances.

After these, four Demy-Cannons by pairs, with their Gins, Powder, Shot, and other necessities.

And in the Rear of all these may march four whole Cannons, with all that belongs unto them: as, four Waggon of Powder, eight Waggon of Shot, with all things answerable. And these are the repartitions of the Artillery, which are to be ordered to march in the Van of an Army of forty thousand men.

After this body, and division of these Ordnance, three thousand Light-horse

or Dragoons are to be ordered to march, and after them, ten thousand Foot. And in the Rear of these, all the Munitions belonging to the one half of the Army; as Bridges, Planks, Powder, Shot, Cordage, Pallisadoes, Pikes, Shovels, Crabs, Corn, as well of Wood as Iron; together with all the Tools belonging to the Carpenters, Smiths, and the like Artificers. All which are to be handsomely lodged in Waggon.

The Victuallers or Sucklers of the moyery of the Army, are to be ordered to march in the next place, with the Hospitals followed with the Carriages and Waggon belonging to the General, and the other Commanders in chief; and after them, that part of the Baggage belonging partly to the Vant-guard, and partly to the Bartel.

After these, may march twelve thousand Foot, ordered into small Bodies, having in the Rear of them a Body of Waggon of Baggage, whereof part is to belong to the middle-Guard, or Bartel, and part to the Rear-Guard; followed with the Generals Life-Guards, and the suite of the Ambassadors.

Next again after these may follow the Munitions and Engines, serving for the use of the Rear, with the Artillery, Bridges, and the like appurtenances; and after them, eight thousand Foot, making the Gross of the Rear.

Then (as formerly in the Van) may be ordered to march four Cannons, four Demolition-Cannons, three Culverins, or Quarter Cannon; and lastly, three Field-pieces, with all that belongs unto them, both of Powder, Shot, and other necessaries, with the requisite attendants.

And after them, two thousand Foot, to serve as a defence and coverture to all the Artillery of the Rear.

And last of all, are to march five hundred Horse, answerable to the like number in the point of the Van; who are to bring up the Rear, and to discover that part of the *Campagna* that way; that so no unforeseen Alarms may be given by the Enemy, to any considerable loss.

And in this order may an Army on all occasions be sufficiently provided in a march against all attempts; especially when the Enemy is not in view, but somewhat remote.

But if the Enemy be in view, and an assault to be expected, and the Army nevertheless of necessity to march, and this befall in a large Plain or Champion Country; this order now described is to receive some alterations. For it will be needful to have a large Front of Pikes, being ten or fix deep in File, with wings of Shot on each side, the which all together are to make an equal Front; between which Shot and Pikes the Artillery is to march in the intervals. And in the midst, right behind the Cannon, or Artillery, may march two Bodies of Pikes, and betwixt them the Carriages or Baggage. And last of all, in the Rear of all, may be ordered a Body of Pikes, with divisions of Shot on each side, equalizing with those of the Front; and on each side of them, some Troops of Horse, to serve as wings to the Body of the Rear.

And in this Form and Order an Army may both march, and if need be, fight without being disordered or much impeded in its way. For if the Enemy shall charge in Front, this order may be maintained, and receive the Enemies charge, be it either of Horse or Foot, by the Front

of Pikes; and the Shot in the wings shall
 oportunately gall them in the mean time,
 and the Artillery also give them a Salve
 as they make up; and both Shot and Can-
 non be well secured, either by the Pikes, if
 the Enemies Foot shall charge; or by the
 Horse in the Rear, which are to advance
 if the Enemy charge with his Horse. And
 if the Enemy charge in any of the Flanks,
 it may be sustained by those Pikes which
 march there, if his charge be with Foot;
 and withal, he shall be galled by the shot
 both of Van and Rear: and if his charge
 be with Horse, it may be opposed by the
 Horse marching in the Rear, who are to
 advance to that end. And if the Enemy
 give on in the Rear, his Foot may be re-
 ceived (with Faces about) by the Body of
 Pikes which are ordered there, and also be
 much annoyed by those Shot flanking
 those Pikes; and the Shot well secured,
 as well by their own Pikes, as the Pikes in
 the Flank; and especially by the Horse
 marching in the Flanks of this Rear. And
 all this while, the Carriages of Baggage
 and Munition may likewise be very suffi-
 ciently secured, by their being ordered to
 march in the very center of the Body of
 Pikes.

But because it may fall out upon occasions either of passages, or ways, or present work and employment, that the Train of Artillery may be forced to march by it self apart, and severed from the main Body of the Army; in this case the order and conducting of it may be, that half the Pioneers and Labourers make the Van, marching under their Chiefs and Commissaries, and to be freed from the trouble of any strangers not belonging to their Train, nor with any of their Waggon. After which Pioneers all such Waggon are to march, as carry the Spades, Mattocks, and the like Utensils. Next unto these, the Field-pieces are to follow; after them the Culverins, then the Demy-Cannons, and lastly the Cannons. And thus ordered marcheth the Vant-Guard: and in the very same order may also march the Rear. And after the Cannons in the Rear, may follow all the Furniture belonging to the Artillery; and with it the Bridges, the Boats, the reserve of the Munitions, and especially the Magazine of Powder, the Tents in general, and the Generals Tents. Though true it is, that these are sometimes ordered to march in the Van, that so they may be first

in the Quarters, the better to be fitted for receipt and entertainment. After these are to march all the Fire-works, all the Ladders, Planks, Chains, Nails, and Sacks, and the like implements. And after them, the rest of the Pioneers and Miners, followed with the Waggons of small shot, with the Store of Lead, with those of the Pikes and Arms to spare. And then the Waggons of the great shot; the which, though properly they are to be ordered to march next after the great Guns, yet in respect that the small shot, and other small parcels, are more subject to the pillage of the Common Souldier, they may best be secured in this manner. And in the last place are to come up the Waggon belonging to the General of the Ordnance, his Lieutenants, with the Gentlemen and Officers of that Train. And then again the Smiths and Carpenters. And in rear of all, the Provost of the Artillery is to march, together with the remainder of the Baggage, and the Victuals of the whole Train.

And thus may the Artillery belonging to a great Army march in good safety, in all common passages, and in a large and

open Country, severall and apart by it self. And if it shall be thought that the Train will hereby be over-lengthened, it may be helped by dividing it into three parts; but in such a manner, that the Vant-Guard may take the right hand, the Battel the left, equalling the Front with the Vant-Guard, and the Rear-Guard, with the Ordnance and their appurtenances, to march betwixt them both. And hereby also, the whole Train marching the more closed, shall become the stronger and readier; and every man prepared to know, and fall into his proper rank and place, without the least confusion.

As for the conduction and ordering of the general Carriages and Baggage belonging to an Army when it is to march: It hath been found (as well with the Ancients as Moderns) to be disposed in five severall parts: As either before the Army, when there was a suspicion of the Enemies charging in the Rear; or behind, when the Army was led towards the Enemy; or on the one Flank, when there was an expectation to be charged on the other; or in the center of the Battel, when a charge was looked for on all sides. And thus

much

much touching the ordering of an Army in its marching thorough a plain and champion Country : it remaineth to speak somewhat about the conduction of an Army over Rivers, and the like. In which case, if the Enemy be in appearance, or near unto the Rear, it will be fit in the first place to pass over some six or eight Pieces of the smaller sorts of Ordnance, and so to lodge them on the other side of the River, under good covertures, that they may fully discover and play upon that part whence the danger is expected. But withal, a large half Moon is to be raised on the opposite side ; wherein the rest of the Ordnance are so to lie mounted, that they may play upon all the approaches of the Enemy, and withal flanker their friends, and so favour them in their passage : during the which interim, those Pieces on the further side are likewise to be kept in continual play ; that so the Enemy may not, without apparent hazard, approach the Rear of the Army. And if there be any suspicion of the Enemies falling upon the very tail of the Rear, some small entrenchment is to be made, wherein some small Pieces may be lodged, and guarded with

with a convenient number of Musqueteers; who are there to stay and make good the place, until the Army be passed over the River; and then themselves are last of all to take their passage in the last Boats, under the favour of those Guns planted at the first on the further side of the River.

And in this manner did that famous Prince of *Parma* make his passage with his Army over the deep River *Wale*, when *Henry IV.* of *France* with his Army followed him a long march in his Rear.

Thus I say may an Army make his passage over a River with Boats, with good security, though an Army of Enemies follow it in the Rear. But if an Enemy lie on the further side of the River, of purpose to hinder the passage of an Army over it, then that course is very approvable, which in the like case was put in practice by that super-eminent Commander the King of *Swedeland* (when *Tilly* was on the further side of the River to oppose him) who to that purpose made choice of a point of land, (so made by the serpentine bending of the River that he was to pass over) the bank whereof, on the side where the
Kings

Kings own Army lay, being a Pikes length higher then was that on *Tillies* side; being also plain and without covert, but the Enemies side Woodie and close. Upon this point the King caused a running Trench to be cast up round about; wherein Musqueteers were so lodged, that out of it they might with good security give fire into the opposite Wood, where *Tilly* with his Army lay in covert. And the same Line or Trench had a great Battery besides at each end of it, whereon some Demy-Cannons and Culverins were mounted, with many lesser Batteries between them, for some smaller Pieces all along the point; the which also were every where lined and intermingled with Musqueteers. The Bridge for the passage of the Kings Army (for by a Bridge they were forced to pass) was made with Planks and the like materials. The means to support this Bridge, was by certain strong Tressels, whose feet were long enough to fathom the depth of the River. And these Tressels had great stones made fast to their legs, wherewith to sink them; and the length of the Tressels were proportioned to the just depth of the River in every place where

where they were to be placed: so that the Planks upon the uppermost part of the Bridge were to lie almost even with the Surface of the water.

The Bridge thus fitted and laid over, the Kings Pioneers were instantly commanded to pass over upon it, and call up a small Half Moon, with a Pallisado fitted unto it upon that side of the River: the which works were so contrived, as that they did answer in every particular those of the Enemies made for his Musqueteers; and withal served to cover the Bridge, and to lanch such great shot as should be made upon the Bridge. And these Pioneers were secured in their workings by the Cannons and Musqueteers of that Party, lodged on the opposite side of the River.

Now the reasons inducing to the choice of the Part, and the manner of the Works were, in that the crookedness and serpentine course of the River did afford a conveniencie, by flanking it on every side to defend the Bridge, being laid over just upon the point of land; so that it could not be touched by any of the Enemies Batteries, though they were on each side there.

thereof: because by the sudden shouldering away of the bank of the River at either end, none of the Enemies Cannon could bear or beat upon the Bridge, but that either the bullets fell short, being larched by the Half Moon aforesaid, and the height of the bank of the River; or else flew quite over the Kings Leaguer, and so did no execution. By which means the Kings Army passed over safely; and being over, routed the Enemy, and killed their General, that brave old man.

And thus you have some Rules and Advancements about the conduction of an Army over Rivers, by Boats and Bridges. But if an Army be to pass over a River by a Ford, and an Enemy ready to resist on the further side; As it is to be known that that Army runs a great hazard which is thus put to it, so is it not to be practised but upon most urging causes, and then with all cautions possible; among which, I shall proponnd these following. That in the passage, the most of the Horse be ordered to pass in the Front, and the Foot to march close up after them; for the Horse are better able and provided to sustain the Enemies resistance at their landing.

ing then the Foot; who must needs be much encumbered and tired by their wading thorow the water, and especially if the Foord be broad or deep. And besides, the Horse thus marching in Front, shall opportunely discover the condition of the passage, where it is at best and worst; and may also be ready to relieve and succore any of the Foot that by any accident may be endangered in the water. And this was *Cæsar's* order in his British War, in his passage over the River of *Thames*; and in the River *Sicoris* in his Spanish War. And if the Foord be deep, and withal of a swift current, it will be necessary to place a great number both of Horse, and other great Cattle, as well above the part where the Army is to Foord it, as also below; for hereby the Horse that stand above, will break the force of the Current; and the Horse that stand below, may succour and take up any such as shall happen to be overswayed by the force of the stream; and withal, add courage to the Souldiers in general to adventure. And this count was practised by *Hannibal* in a passage of his Army over the River *spo*, where in stead of Horse, his Elephants were thus ordered to this purpose.

A second course to this end (but requiring more time, though with less peril) may be, to abate the depth of the Foord, and violence of the Current, by dividing the River into many Channels. As *Cyrus* did the River *Euphrates*, when he took *Babylon* from *Baltaxer*; and *Semiramis* the same River (if we credit *Herodotus*) long before: as afterwards *Alexander*. Neither hath this practice been altogether amongst the Ancients; for at the last siege of the Town of the *Borse*, when the *Scots* took it in, that small River that run through the Town, was so diverted, that the Town was not only streightned in point of water, but all such Passages and Avenues drowned, as might have facilitated Reliefe from abroad, and the approaches upon the Town it self made by far more easie and accessible.

As for the kindes of Bridges proper for these conveyances of Armies over Rivers, whereof we spake of one even now: Of these there are many sorts; but those most in use, and indeed most commendable, as are made upon flat-bottom Boats or Puntts, wheresoever these are to be procured. But withal, whatsoever the
Bridges

Bridges be, or howsoever contrived, it is to be received for a Maxime, that wheresoever an Army is to pass over any of them, and the Enemy within the distance of half a days march; no part of the Army ought to be severed from the main Body, that no advantage may be taken by the Enemy, to intercept or come between them and their Friends. And this holds not onely in the passages by Bridges, but by Boats, or Foords, or any other.

And thus you have directions for the marshalling of Armies in a march. And these well observed, though an Army should be forced to march even by night, need no other additions, save onely that extraordinary care be had in providing a sufficient number of able Guides, which are to be distributed throughout the whole Army: That a well chosen Watchword be given, whereby every Piece and individual Person may be known one to another: That many Altes be made, to hold all the parts together, and no Stragglers lost: That the quantity and length of the march be so laid, and with that discretion limited, that the Souldiers be neither disabled by over-long journeys, nor

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opportunities lost by sickness: and lastly, that especial endeavour be practised to procure good intelligence of the Enemies proceedings.

As for such marches as are to be made over Mountains, thorow Woods, and Boggie and Marish grounds, and the like; it is not to be expected that any certainty can be prescribed, as touching their forms; for they are to be accommodated to the ground and ways that necessity throws them upon; and commonly are extended in great lengths, made passable by the labour of Pioneers, but best secured by vigilance.

CHAP. VIII.

Of the ordinary way of ordering a Royal Army to Battel. The Leaders in the order, where to place themselves, and who to be. A censure of the defects of the order formerly described. Of the Generals placing himself betwixt the Battel and the Rear. The best place for the General in a battel. Of the lining of the Horse with the light-armed, or Musqueteers. Of the long-Bowe, how to be ordered and employed: wherein it is preferable, and hath the advantage of the Musquet. How the Horse are most advantageously ordered and placed in a battel. The best Forms and proportions of Horse-battels. The censure upon these Forms, and the use of them. The depth that Horse-battels are to be ordered into. Of some words of Command both to Horse and Foot. Of doubling Files and Ranks, and the use of them. A modern form of ordering a Fight, much approved of. Why an Army is thus to be ordered. Objections answered.

IN the last foregoing Chapter we pounded some directions how Armies were

were to match. In this we shall speak of the forms of embattelling them to fight; and shall purposely omit many sorts of them, as being to little or no purpose, save to express the cunning of a curious Serjeant-Major-General, and to please wanton Spectators; but shall apply my self to such as are most of use.

The customary way of ordering an Army-Royal to a Battel, as well Anciently as more Modernly, hath been to divide it into three Battaliaes; or main Bodies: and these three Bodies have been, and yet are, (by some Nations) ordered into one joint Phalanx: by others distributed into maniples, or small divisions. Between which divisions, for the prevention of some confusions, they leave intervals or distances, that by them, and through them, one Battel or Body may the more conveniently second the other. And the breadth and depth of these maniples are to be made answerable to the Enemies forces, and the nature of the ground; but with such distances, that if the Vant-guard should happen to be broken, it may conveniently retreat thorow them behind the Battel; which thereupon is to joyn and

advance, and so to renew the Front, and receive the Enemy afresh. And in the like manner, upon the like occasion, is the Battel to do behind the Rear. And as the one Body is thus relieved by another, so may one maniple by another, and that without either the advancing or retire of the whole Body.

As for the Leaders of these several Bodies, those of the Van-guard are to be, the Lord Marshal, with the one half of the Colonels, and half of the Captains, having the best men in the Front. And in a retreat, the same men are to bring up that Rear.

The Leaders of the Battel, and of the Rear, are to be the other half of the Colonels and Captains. As for the Generalissimo's place (according to this order) it is to be between the Battel and the Rear; and that as well in regard that it is the place of most security, as that upon all occasions his advice and command may there be best given and taken. And the Ensignes are to be ordered into the midst of the Maniples, or somewhat nearer the Front. As for the Artillery, it is to be ordered before the Front, without the com-

ment

ners of the Vant-guard, upon the most elevated ground, that it may the better play upon all parts. Only if the Enemy be expected to charge on all parts, then is the Artillery to be placed on all parts: and such Pieces as are not for the present employment, to be bestowed between the Battel and the Rear; unless the fight be before a Town, or Camp entrenched, and then it is left either in the Town or Camp; and so is the Baggage likewise, and all the unprofitable persons.

But this ordering of an Army for a Battel, hath not passed without reprehension in divers particulars.

As first of the Phalanx, and indeed all other over-great Bodies: for it being an undeniable Maxime, that those Troops stand in best order which can bring up most hands to fight at once; it as undeniably followeth, that the smaller Troops and divisions must needs do this best, and therefore are preferable: Because in great Squadrons or Phalanxes, many men are drowned in the depth of the Files and Flanks, and never appear but when the breaking of the great Body doth present them to the Butcherie. The great Squa-

drons are also reprovab^{le}, in regard that they are unmanagable, and cannot be preserved in order but when the ground is large and plain, and withal of an even and perfect level; otherwise they must either stand immovable, or upon the least motion be subject to shaking and disorder; whereas the lesser Bodies are scantled for all places, champion or woodie, level or uneven, of what condition soever. Again, if two or three ranks onely of the great Bodies happen to be broken, or any way disordered, the whole Body is equally interessed in the disorder, and hath far less means to rally it self, then a small maniple: whereas on the contrary, if any violence rout or disorder a maniple, it proceedeth no further then to that part where it taketh the disranking of any one of these small Bodies, not at all, or very little extending to the confusion or disorder of any of the rest: by reason that their intervals and separations or distances serve to cut off such inconveniencies, and yet no way hinder the general uniting of all their strength into one Body. And these are the exceptions against great Bodies, and united Phalanxes.

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The second exception against the former order, is about the placing of the General himself between the Battel or Middle-guard, and the Rear-guard, as the former order prescribes. Concerning which, notwithstanding many opinions are to be found, and various Presidents; *Vegetius* (in his third Book and eighteenth Chapter) saith, that the General of the Army is accustomed to be in the right Wing, betwixt the Horse and the Foot. And he addeth, This is the place which governeth the whole Battel, as from whence all sallies out are direct and free; so that (saith he) the General resting thus betwixt the Horse and Foot, may best govern them with commands and directions. Now of both these there have been found examples: of the first, *Diodorus Siculus* affirmeth that it was the manner of the *Scythians*, that the King should be in the middle of the Phalanx. And *Arrian* (in his first Book and thirty sixth Chapter) affirmeth that *Darius* took the same place. And *Leo* also (*cap. 4. Sect. 63. and 67. and cap. 12. Sect. 66.*) giveth the middle of the Battel to the General. And *Plutarch* reports, that *Timoleon* in his fight against the

Carthaginians placed himself in the very midst of the Battel.

On the other side, we have it in *Xenophon* (*Cyrop. lib. 7. fol. 176.*) that *Cyrus* in his Battel against *Craesus*, took his place in the right Wing, betwixt the right hand of the Battel, and that of the Horse that were ordered in the Wing. And *Alexander the Great* (though bred amongst the Phalangiers) did the like in most of his Battels. And for the Moderns, I find the valiant King of *Sweden* at the battel of *Liptzwick*, in the right Wing, in the Front of some Brigades of Horse; and at the battel of *Lutzen*, in the very Front of the right Wing of his Vant-guard, consisting of six Horse-Squadrons, lined with five Bodies of Musqueteers.

For mine own part, as (amongst these various opinions) I cannot approve of the Generals placing himself in the midst of the Middle-guard or Center of the main Body of Pikes, in regard that it neither expresseth valour, nor can he see about him to discover any advantages or disadvantages, and to direct accordingly; so on the other side, I shall not advise to have any General to be over-hazardous in adventuring his

his person in the very heighth of the Front, especially when the Army falls up to the charge, lest the loss of the best blond of that body, procure the languishing of the whole. And thus I am sure was lost at *Latzen* the best General of the World, though (to the wonder of the World) that headless Army got the day in a fury.

In mine opinion therefore, though a General may place himself (at the time of a battel) in the right Wing of his own Middle-guard, yet ought it to be with some Brigades of Reserve: and by no means in the very Point or Post of the Van. For questionless it is a great error in a General, when his courage shall not suffer his judgment to distinguish betwixt the duties of a common Carabine and the General of an Army.

As for the lining of the Horse with Musqueteers, or at the least with the light-armed, (whereof we gave a touch before) it was not uncommon with the Ancients. And it was always held, that Horse being thus charged, could not resist both. And we have a notable example hereof in *Hirpinus* (*de Bello Afric.*) when *Cesar* having a march

a march to make, and but a small number of Horse with his Legionary Souldiers, was set upon in his way by the Enemy, abounding with Horse, and light-armed Numidians amongst them. And when *Cæsars* Souldiers fell out to charge, the *famines* Horse retreated, and the Foot stood fast, until their Horse with a short wheeling about, returned upon the Rear of the Enemy to their rescue: by which way of fight, *Cæsar* himself confessed, that he was so perplexed, that he found no other course to save himself, then to recover some hills of shelter near at hand; and that had it not been for them, he must have fared worse. And for those Musqueteers wherewith the King of *Sweden* Horse at the Battels of *Lipzwick* and *Lutzen* were lined, they were so shadowed from the Enemy by these Horse, that when those of the Enemies came up to the charge, they did a very great execution upon them before they were aware, and were a main means of the attainment of those two famous Victories.

Nor can I apprehend any objection that may (with any reason) be made against this form of order; since hereby these

these Musqueteers are well secured by their own Horse, and the Enemies Horse in extream danger to be terribly galled by these Fire-weapons before they can get up to charge home, or so much as to approach within the reach of their Pistols. And therefore it seemeth to me very worthy both of acceptance and imitation.

And these ways of lining of the heavy-armed with the light-armed, have not been found to be practised with the Horse onely, but with the Pikes also; and that as well with the Ancients, as those of our time. True it is, that these light-armed with the Ancients, were the Slingers and Darters, and were variously ordered; sometimes before the Front of the Phalanx, or main body of the Pikes; sometimes on the Wings, sometimes betwixt the Files of the armed, fronting in a right line with them; sometimes in the Rear of the Battel of the Pikes (and of these *Ælian* makes mention, *chap. 42.*) and sometimes also in a quite contrary way; as when these light-armed were drawn into the midst of the battel it self. As for the usual Modern ways, they are (as all know) to place and order the light-armed men, which

which are the Musqueteers, in the Wings and sometimes in the Front of the Barrel of Pikes. And the Swedish Discipline introduced an intermingling of the Musqueteers with small bodies and maniples of Pikes; the which, nevertheless, were so bestowed in the Sections and Divisions of those bodies, as not to be discovered by the assaulting Enemies until they felt them.

And surely (if the Garb of the Time would allow it) I see not, why some of our long-Bowe-men (which, as the World knows, have been the fame of our Nation) might not be employed in these services, mixed together with our Musqueteers; nor why they should not execute to great purpose, especially upon Horse. And if some of them were ordered in the very Rear of the body of Pikes, they would not onely be shadowed from the view of the Enemy, but might be drawn up without any confusion or trouble to any other part, as occasion should require; nay, standing firm in the very Rear of all, they may, questionless, do very great service, (and especially before the Armies join) by delivering their Vollies of Arrows over

all that stand before them; the which, as many of them as fall upon any Horse-Troops, and with their barbed heads stick and hang fast where they fall (as they will certainly do) they cannot chuse but cause a mighty confusion: nay, their very sticking in the ground, in the way of a Horse-Troop, must needs dazle their sight, and amaze them. For I am clearly of their opinion, who hold that the long-Bowe is preferable to the Musquet in these respects: In that many ranks of Archers, yea all of them, should they stand ten in depth, may deliver their whole Volsie at once; whereas the Musqueteers can do this with one rank onely at once; or at the most (after the Swedish way) with three: as also, in regard that the arrow strikes as well in descent, as at point-blank, the bullet onely at point-blank: In that the Bowe may far better be used in wet weather than the Musquet, and is withal farer to take, whereas the Musquet oftentimes fails in taking fire: In that the Bowe is undoubtedly more prevalent against the horse than the Musquet; for though a horse be shot thorow with a bullet, he is yet for a while able to bear his Rider,

Rider, and so do service; but if a barbed arrow do but hang in any part of a horse, he becomes altogether unmanageable, and so unserviceable. And lastly, in that (as aforesaid) though the arrow should miss its mark, yet its very sticking in the ground (and especially when a whole Volley doth so) proves not onely terrible to the horse, but cumbersome both to horse and man; and that in all grounds, and at all assaults.

I know well, that in some particular the Musquet also is preferable to the Bow; as behind a Rampart, and thorow loop-holes; and in that a good Musquet duly charged, will carry point-blank to the distance of twelve score, whereas an Archer (especially now adays) can scarce shoot so far at random. It may be also that the Musquet is more terrible, and scareth an un-accustomed man, more then the Bow. But for all this, I know not but that they may both pass in Cameradeship; nor do I know (all things considered) why the new invention of the Pike and Bowe united, should find so little entertainment amongst us as it hath done; unless it be that now adays we have given over our
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selves to take up all things upon meer trust rather than reason, though evidenced by demonstration.

But because we have spoken much of the lining of Horse with Musqueteers in a battel, it may well be expected that somewhat should be said touching the placing and ordering of these Horse: and of this I find the common and usual way to be, to dispose them in the Wings. Thus did *Alexander* at his passage over the River *Granicus*, as *Arrian* recordeth, (*lib. 2.*) and *Curtius* (*lib. 3.*) So did *Antigonus*, as *Diodorus Siculus* hath it (*lib. 19.*) And so *Ptolemy* in his battel against *Demetrius*, as the same Author saith in the same Book. And in brief, all the *Macedonians* and *Grecians*, unless some especial cause urged an alteration, did the like. And so the *Romans* also, since them. And indeed so it hath continued almost in all ages, even to this.

Nevertheless, I hold it not amiss, upon many occasions, to place and order some Troops of Horse in the very Rear of the Army; provided that some large intervals be left in the divisions of the bodies of the Foot, that thorow them these Horse

Horse may be drawn up to charge, when need requires: For hereby these Horse shall both be shadowed from the Enemies sight, and may be drawn to a charge in any part of the Army wheresoever. And of this also, we find both old and new examples; as of old in the War between the *Romans* and *Spaniards* mentioned by *Livie* (*Cecab. 3. lib. 9.*) wherein the *Assetanes*, the *Illergetes*, with some others, are said to leave broad intervals between the Wings and the middle part of their Battel, to give passage to their Horse to come up to all charges. And I find the like likewise to be practised by the King of *Sweden* in the battel of *Liptzwick*, where he ordered divers Reserves of Horse in the Rears, whence they were drawn up, and did very good service, towards the atchievement of that famous Victory. Sometimes also it hath been found, that the Horse have been ordered in the Front of the body of Pikes. But I believe that this was onely done when that side did much exceed the other in number and strength of Horse, and when there was some distrust in the worth of the Foot. As in that battel between *Emmenes* and
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Craterus, mentioned by *Plutarch* (in *Vita Eumenis*) where *Eumenes* placing the Horse before his Foot, did it (saith the Author) because he held them the prime of his strength; and therefore put upon them the hazard of the day: and here-
in shewed himself both in counsel and action; a brave and well-experienced General.

As for the best forms and fashions of Horse-battels, the most ancient, and then the most common, was that of a *Rhombus*. And this was in special account with the *Thessalians*; (witness *Ælian*, cap. 18.) who were reckoned for the best Horsemen of *Greece*, (as *Xenophon* reports them in his *Hist. Græc.* lib. 7. 644. D.) and held that account to the time of King *Perrus*. And for this form, these reasons are given: That it was fittest for all Encounters, because the Horse thus pos-
tured, were ready to turn Faces about any way, upon all occasions: That it could not be surprised in Flank or Rear, as being the best and choice men in the Flank, and the Commanders in every point of the *Rhombus*.

But the practice of our days consists

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most

most in the ordering of the Horse into square Bodies. And the grounds hereof are, That these forms are with most ease and facility to be put in order: That they are aptest for the joynt movings of the Horse: And that the Commanders do joyntly charge the Enemy in the Front; which in no form can be done but this.

To speak freely of both these forms, I opine with them who hold that the *Rhombe* in point of piercing, and artificial breaking into the battel of an Army, is the most proper, (unless perhaps that a *Wedge* be in the same case to be preferred;) for being narrow and pointed in the Front, it naturally forceth a passage with the point, and withal maketh way for the rest of the Body to follow; and so without much ado, piercing farther and farther, it must necessarily hazard the breaking of the adverse Battel, and so disperse it, that afterwards execution may be done at pleasure. On the other side, the square Horse-battel in respect of doing execution, and violent overthrowing of all in its way, is to be preferred before any other; for it bringeth more hands to fight, and beareth down all things before it.

in. So that I see not but both these forms of Horse-battels may be held in use, even in these times; the one for entrance, the other for bearing down; this for a thorough execution, that for a dispersion.

But there is one thing more in the ordering of Horse-battels of especial observation, and that is their depth; of which *his* opinion was (*cap. 12. sect. 40.*) that a Horse-battel was onely to be four in depth; and his reasons were, that (bearing Lances) the fifth was unprofitable, because from thence their Lances could not reach to the Front; neither (as he) can Horse (as Foot) with their closeness or depth, thrust one another forward from behind; and therefore in his opinion, the number of four was sufficient for the depth in File. And yet we find *Polybius*, that the Horse was for the most part in his time, ordered eight in rank. But this was in the Age of Lances. In our now Pistol-world, I finde the Horse of *Swedens* which were ordered in the Wings of the Van at the battel of *Lipewick*, to be four in depth: And that were in the Wings of the Rear, to be five in depth; and so likewise were

Tullies Horſe. In the battel of *Luzen* the King of *Swedens* Horſe were in no place above three in depth; whereas *Walſteins* Horſe were every where fix.

It ſeems therefore, that there can be no certain rule touching this particular; but that it muſt be varied according to the number of Horſe, and the neceſſity of enlarging the fronts: ſo that *Alians* proportion may be received with moſt approbation for the general; which is, to double the number of the Front, to the number of the Flank; and as the number of the Troop ariſeth, to enlarge the length of the Front and the depth of the Flank proportionably one to another: yet would I not have it to exceed the number of eight at any time in depth, nor under ſome for the one extreame loſeth the fighting ſome hands by reaſon of their over-depth and the other is over-weak to ſuſtain any great ſhock.

I ſhall add one thing more, which may concern both Horſe and Foot, concerning words of Command; touching which I find, that it was the ancient uſe, (witness *Polym. lib. 4. 217. ſect. 2.*); that when the Horſe were commanded to turn to the right

right hand, the word of Command was, Turn to the Staff; that is, to that side where the Staff or Lance was then carried: and when they were to turn to the left hand, the word was, Turn to the Reins; because the Reins were born in the left hand. And so to the Foot, the words of Command were of old, To the Pike, when they were to turn to the right hand; and to the Target, when they were to turn to the left. Now the present words of Command to this purpose both to Horse and Foot, are, To the right hand, To the left hand, To the right hand about, To the left hand as you were; To the left hand about, To the right hand as you were.

Touching which, I shall onely offer it to the consideration of our present Commanders, whether it were not safer in this case to take up some other words of Command, then those that are now in use. And this in regard that our present words of Command, To the right hand, To the left hand, are subject to be mistaken, as being of too alike sound, and may very easily be taken one for another. And all mistakes of this kind must needs be very disadvantageous, and carry with them much

of peril, as all judicious men will readily confess. So that we may do well to be herein presided by our Sea-men, who in their Sea-words of Command for the Condeing of a Ship, use not to say Lar-board the Helm, but Port the Helm, when they would have it to be put to the left side of the Ship; left by the affinity of the sound; it should be taken for Star-board the Helm, which is to have it to be put on the contrary side; and that in many cases bro a certain ruine. And this also may be the better perfected by *Alians* rule, that the particular be placed first; as to say To the Horse, To the right hand turn your Face, when you would have them turn to the right hand; To the Reins or Sword turn your Face, when they should turn to the left hand. And to the Foot, to say, To the right hand turn your face, when they are to move that way; and To the Sword turn your faces, when you would have them move to the left hand.

As for the words, Double your Files, or Ranks, or Length, or Depth: The doubling of the length is to be used, either to over-wing the Enemy, or to avoid the over-winging of the Enemy; or else to make

make the fairer shew and outside of an Army; whereby to dis-hearten the Enemy, and withal to deceive him. The doubling of the Files or Depth, to be done either in respect of the straitness and narrowness of the place, or for the better strengthening of the battel, or to draw an Enemy to fight when you have the advantage of him.

And thus have you the Gennine uses of both these kinde of doublings, as well in length as depth; wherein, nevertheless, one heed is to be taken, that in doubling of the Front there be not given so much length that it fail in its due depth; nor so much depth, that the Front be over-narrowed, and so subject to be environed: the want of length and depth in an ordered Army for a battel, being equally disadvantageous and reprovabie. For when it is embattelled over-shallow, it can endure no shock; when over-deep, it is easily compassed, and in danger to be utterly ruined that way.

To comply therefore with all these advantages, and provide against the defects, I shall describe a modern form of embattelling an Army for a fight, that hath received

ceived a very general approbation, and deserves as general an imitation. And it is in this manner (supposing the Army to consist of twenty thousand men, all other numbers being to be proportioned accordingly:) in the Front of the Van are to be Wings of the best Troops of Horse, to be somewhat advanced before the main Front of the foot of the Van; These Horse to be divided into several maniples or small bodies, and the Divisions to be well lined with Musqueteers. The Van of the Battel or Middle-Guard to be ordered into four Brigades of Pikes and Musqueteers, the middle Front of every Brigade being to be somewhat advanced; before which part the Artillery is to be placed; and to secure it, three divisions of Musqueteers, with some Troops of Horse near unto them, are to be ordered immediately behind these four Brigades: and all these bodies are to be well lined with Musqueteers in every one of their Divisions: and for a strength to these also, some Cannons may be placed in the Rear of them all. In the Rear of the right Wing, is to be placed twelve Troops of Horse, and as many in the Rear of the left Wing. As

for the Rear of the main Battel or Middle-Guard, it is to be ordered into three Brigades of Foot; the which are to serve for a Reserve of that Body. And every middle Front of each Brigade to be somewhat advanced, as those in the Van. And in the Rear of all these, two half Regiments of Horse, of five Troops apiece.

Now the grounds of this order of embattelling of an Army for a battel, are these: That every part of it consisting thus of several maniples, and small Bodies, if any one of them should happen to be broken, yet is there not so much danger any thing near, as when an Army is ranged into great Battalions; because they may with far more ease (by reason of the agility of their motion, as being little Bodies, and the small piece of ground which they take up to move in) be restored and supplied, then a main great Body can possibly be. Secondly, In that though the thinness of the Files (which are said to be the best, when they are not above six in depth) may not perhaps be able to endure any main shock or force; yet by this order shall more hands be brought up to fight at once, then can be in great Bodies;
and

and shall also be more able to do execution on the sudden. Thirdly, In that in this order every part so fenceth, flankers, and backs one another, and is so apt to second, relieve, and support one another; so ready either to send out supplies, or to receive them, as that the whole Body looks like some Master-Piece of Fortification; and indeed, becomes so, having (as it were) its Bastils, Towers, Bulworks, and several Retreats. So that though many several and individual persons may chance to be laid on the ground, yet shall the whole order be preserved from being dis-joynted, and much more the great Body of the Army from being routed.

Thus I have laid down a forme of ranging an Army for a Battel, which some have stiled Admirable. And yet I must tell you, that it hath not been free from objections; and those made by some old Souldiers, or at the least, Souldiers of elder time. For first, they say, that in respect that private Companies cannot hold long in their full strength and due numbers, being in the Field, by reason of sickness, slaughter, and the like accidents;

that

that thus to order an Army into small bodies, and as it were into private and particular Companies by themselves, their Vollies of shot can neither be great, nor the harm great that the Enemy shall receive by them. But to this it may be answered, that we speak not here of the ordering of particular Companies by themselves, but of small Bodies made up of private Companies, as cause shall require; so that though it be true that the strength of the Army may be weakned by these accidents of death, or otherwise, yet the divisions may stand fast and full: Though it is as true, that there will be fewer Divisions; which makes nothing against the order in general.

Secondly, these Objectors say, That the mixing of the Shot and Pikes together in distinct Companies, weakneth and disableth the whole Body: for (say they) by casting off the Shot in this manner, the intervals and streets are made so empty and wide, that the Enemies Horse are enabled to break in and disorder them. And if the Shot be not thus cast off, but kept close, and so made to discharge in Counter-march, they are hereby apt to be thronged together.

together by the Pikes; and the distance of place being taken from them, the use of their weapons also must needs fail them, and so all come to ruine.

But to this Objection also it may be answered, That all this may be helped by the uniting of these bodies into one, as shall be found necessary: nor need these Shot be so removed from their Body of Pikes by any casting off, but that they may be reunitied with ease on a sudden; nor shall they be thronged by their Pikes, or deprived of their distances of place; because they shall not need (holding this order) to discharge at all in Counter-march.

Thirdly and lastly, it is objected against this foresaid order of embattelling an Army into small Bodies, that in what manner soever the Shot be employed, there must needs be a weakness in the Rear, so that the Enemies Horse may break in at pleasure. But to this it is again replied, that the uniting of the small Divisions being carefully observed, assureth against all these assaults and perils: And that all these objections fall rather upon the embattelling of a single Regiment, then the form-

forming of a Battel or Army made up of ten or twenty thousand men. And thus much of the ranging and ordering of Armies for a fight: we shall in the ensuing Chapter give some Advertisement touching the Dislodgings, Retreats, and Entrenchments of a Camp-Royal.

CHAP. IX.

Observations upon the certainty of Orders for dislodging a Camp. Of Retreats, when to be made in a Campagne, and when to be made in narrows: How to be ordered, and the Reasons. Of an Army forced to lodge in open Fields. Of the encamping of an Army. Of the forms of Trenches. Of Guards due to Entrenchments, and where to be placed. Forms of Entrenchments when an over-powerful Enemy is very near.

Being in this Chapter to speak of the Dislodgings, Retreats, and Entrenchments of a Camp-Royal, we will first begin with the first of them. *An Army being to dislodge, and the General*

neral having given notice thereof to the Lord Marshal; he the Marshal is to do the like to the Quarter-master-General, and the Quarter-master to the Provost-Marshal-General, and he to the Quarter-masters of the Regiments, and they to the Colonels and Captains, and those to their subordinate Officers, who are to warn the common men.

Now in the first place the Provost-Marshal-General is to give order to the Provost-Marshals of the Regiments, that they give Command to the Pioneers, Sucklers, and the rest that are not Souldiers, to be in a readiness, and employ themselves in the filling up of the Trenches that they are to forsake, and in the firing of the Quarters (and this to be done whilest the whole Camp are putting themselves into their Arms;) that so nothing may remain entire, to give relief or any way to serve the Enemies turn after they are forsaken by themselves.

This being done, and the one half of the Scouts sent before to make discoveries, that Corner or Wing of the Army which lay next to the Enemy, is first to stir, seconded by the Body of the Vaunt-guard.
Then

Then succeedeth the other Wing, and then marcheth the Battel, followed by the Artillery and Baggage, covered with the Rear-guard, closed with Troops of Horse, serving withal as Scouts to the Army, and to beat up Stragglers.

This hath been received for a general order of dislodgings. But surely this cannot be so precisely and punctually observed, but may and must suffer alterations according to the quality and condition of the Country and Ground that the dislodging is to be made in: for hereby an Army may sometimes be forced to march in broken ranks, at another time have liberty to doir in an entire body; neither can the place of the Baggage be so ascertained to be either before or after the Middle-guard, but that in some cases it may better be ordered in the Flank of the Army: provided that that Flank be the securest part: for the place of most security is always the most proper for the placing the impediments. And thus much touching dislodgings of an Army.

As for the ordering of Retreats, it is to be done in Battalia if the ground will allow it, when the Enemy is in sight, and in

in Front. And in the first place the Rear is to march off; and whilst they turn faces about from the Enemy, the Van and Battel are to stand their ground, as ready to receive all charges. This done, the Battel or Middle-guard is to move, and in all points to observe the orders and manner fore-practised by the Rear: and in the mean time the Van to make a stand, and when the Rear and Middle-guard have again made Alt, the Van it self is to retreat, and to have the Wings of the Horse at the same time to move and flank with it. And lest the Enemy should charge upon the Rear, some numbers of Musqueteers, with some Cornets of Horse, are to man it. And thus may a whole Army maintain and continue a Retreat, so long as the Enemy shall continue in a pursuit, and the ground be a Champion.

But if an Army in the retreat, the Enemy following, be to pass through any narrow rows, as upon Dikes, thorow Lanes, over Bridges; in this case, as soon as any considerable part of the Foot is entered any of these streights, the Horse are to pass in the Rear of that first Division: and in the room whence these Horse departed, strong

strong stand of Pikes well flanked with Musqueteers are to make it good against the Enemies Horse, and to stand firm and keep their ground. And for the bringing off of these Pikes and Shot, it will be necessary that some Brest-work, or half Moon, or both, be cast up at the point of the entrance upon the narrow, wherein Musqueteers are to be lodged; and if case require, some small Field-pieces, as Drakes or the like, to beat upon the Enemy at his approach, and make good the entrance. The which small Pieces may be brought off upon the Narrow in the Rear wall, upon their proper Carriages, with their muzzles towards the Enemy, and upon all occasions to be guarded and secured by the Pikes, in whose Rear they retreat.

Now the grounds and motives of this Order, are, That though during a retreat in a champion and open ground, the Horse may be ordered to come up and retreat in the Rear; because with a small wheeling about, they may advantageously charge the Enemies Horse in Flank, if they should attempt to fall on upon that Rear; and the Rear of the Foot also, with faces about

about, may the whilest receive the Enemies charge with the Body of their Pikes, and gall them with the Shot wherewith they are lined: Yet when an Army is to pass in any streight, these Horse shall then best secure themselves by wheeling about into that Rear of the Division of Foot which hath first entered upon that streight; for hereby a stand or alt may be made good against the charge of the Enemies Horse by the rest of the Pikes which are not entered upon the streight; and these Pikes brought off under the favour of the Field-pieces and Musqueteers in the half Moon, and behind the Brest-work formerly mentioned; and they themselves brought off under the protection of the last Rear of Pikes, and the Drakes, or Field-pieces in the Rear of them; to be secured partly by their own beating upon the Enemy as they retreat, and partly by the last Reserve of Pikes and Shot, when he chargeth home.

And the want of the making use of this order in our retreat at the Island of Roy, was the visible cause of our miscarrying in it. For all the while we marched in open ground, though all our Horse retreated

treated in the Rear of our Foot, and the Enemy both in Horse and Foot doubled our number, yet meddled they not with us, but made alt when we did, and marched when we did. But our Forces being got up to the narrow of the Dike betwixt the Salt Pans, and our Van and Middle-guard well entered upon the Dike, and the Front of our Rear so close up with them, that our Horse could not wheel to put themselves betwixt the Rear of them, and the Front of our Rear; the Enemy did then furiously, French-like, charge with their Horse upon ours, and being by far the greater number, instantly routed them: forcing such of our Horse as sought their safety by flight, to break in upon our own Foot, to their utter disorder; and the rest of our Horse, that could not do so, were all either taken or slain. The execution likewise upon our Foot became hereby very great; and the greater, by reason that there were no kindes of Works cast up to command the entrance of the passage upon the Dike: So that the Enemy was emboldned to charge some all alongst the way of our march, upon the very Dike it self, even to the

very Bridge that we were to pass over, where also, by reason of the improvidence in making it without rails on the sides, our men in the haste and terrour of their disorder, thrust one another into a Creek of the Sea, and were there smothered in the water and mud. And here it was that we lost the most and best of our men.

Now because in these Retreats it may fall out, even with the most provident Generals, that an Army may be forced to lie and lodge in the open Field very near unto an Enemy; it will not be amiss to propound some courses touching this particular. And in this case it hath been practised, that every Regiment should lie down and lodge in the very same order that they marched all the day before, with all their Arms by them: the Pikes to stick up an end close by the bearers as they lay; and every Rot or File (that is, every six) of Musqueteers, to bring their Musquets to their Rot-masters or leaders of their File, who were to see them set with their mouths upright, and so bound together with a piece of Match, that they might stand ready at hand upon all alarms. As for

the person of the General himself, and the Officers of the Field, they were to bestow themselves in their Coaches, or the like; and the private Captains to make use of such kinde of frames of wood as in the Low-Countries are termed Horses, being very proper for that purpose; and of which, it is good for every Captain to have one. Touching the Horse-Regiments, every man was to ease himself and his Horse, by alighting, and resting himself on the ground, and by feeding his Horse near unto him: And in this posture to take repast and sleep; and so to attend the light of the ensuing morn, for the pursuance of their intended retreat. And thus having given some notes touching the Dislodgings and Retreats of an Army, we will finish this Chapter with some Rules touching Incampings.

In these Incampings the General Quartermaster is especially to observe these particulars following: That friends (as near as may be) be lodged by friends; and this as well for preventing of tumults, as the faithful seconding one of another: That such Horse as are most unready and unfit for sudden occasions, be covered

with Foot for three parts of them at least ; That no impediments, as Merchants, Victuallers, Artificers, be lodged amongst the Souldiers : and That the Camp be well entrenched.

And because an Army, be it never so well entrenched, lying thus, will be forced to send Forragers abroad, it is a necessary Providence, (and especially if the Enemy be any thing near) that some convenient number of Troops do by turns stand by their Arms, that they be always ready to answer all alarms : which is greatly furthered, and a Rescue the sooner and with less dismay performed, when some Captains are thus found always in point and ready to march at the first word of Command. And hereof we have a punctual example at *Cæsars* first landing in this our Island. For he having received a great loss in his Shipping by a Tempest, the which encouraged the Britains so much the more to oppose him ; the which himself also suspecting, he caused his Army to be strongly entrenched : And sending out one of his Legions, in its turn to fetch in Corn, the Enemy on a sudden assailed it ; the which being discovered by

an unusual dust, *Cæsar* instantly took two Cohorts (which might amount to the number of 720 men) which were in station before the Ports of the Camp (commanding that other two should supply their places) and led them on to the succour of the Legion that was abroad; the which he found in a dangerous fight with the Enemy: And without this oportune supply, had in all likelyhood been cut off; and was thus relieved.

As for the Forms of Trenches, they are to be regulated, either by the advantage or disadvantage of the site. Their flanks are to be distanced about seventy Paces one from another; Their depth, breadth, and heighth, according to the time and intention of stay in that place, and the expectation of an Enemy: In them entrances or passages are to be laid out for Horse, Foot, and Carriages: And to be covered with Ravelins without, and Bars within. And these Trenches are to be furnished with convenient Artillery, so ordered and mounted, that being well flanked, they may command the *Campagna* round about. And besides all this, the Camp is to be secured by strong and vigilant Guards;

some whereof are the main Guards; the rest the petty Guards. One main-Guard is to be near the Generals Quarter, and the Commander thereof is stiled, The Captain General of the Watch. Another main-Guard is to be in every Regiment, which hath likewise its Captain; by whom the Rounds are laid out, and the Rounders sent abroad to visit the Guards of the Companies: and out of the Main-guard by the Generals Lodging, the Rounders are taken out to visit all the petty Guards.

And because it may be dangerous when in one Discipline two Rounds meet in their Circuit, that they which speak first in taking the Word of the other, may hereby help the Enemy to rob the Word; To prevent it, it hath by some been thought a provident course, that the two elder Rounders should make an exchange of their Companions, and so proceed to finish their Circuit without giving or taking the word of any Round at all. The which I onely offer to our present Commanders to take into their consideration.

As for the petty Guards, they are of two sorts: for either they consist of many persons

persons, and are then termed a Corps du Guard; or of one single man, who is called a Centinel. A Corps du Guard may either be of Horse (which is a Guard without the entrenchments of the Camp) or of Foot, who watch within, before or at the Ports of the Trenches, or any where else where the Serjeant-Major shall hold it fit. In the setting out of the Centinels, it is to be observed that they be not placed over-far from any Corps du Guard, lest by being surprized by an Enemy, the secrets of the Army be discovered.

And because it cannot chuse but be full of hazard, and subject to many casualties, for an Army to be brought up any thing near to an over-powerful Enemy; a General being to be exceeding circumspect, and sure of some advantage also, either by the place, or his own virtue that shall adventure to do it: If nevertheless necessity force hereunto, it is a fit course for such an Army to encamp and entrench it self round about some good Town being to friend, especially if that Town be withal a place of a pass, and by its situation and vicinitie unto some other parts in amity with it, any other way advantageous;
for

for by this means both the Army and the Town may be well secured, and by the pass both of them continually supplied with Victual and Munition.

As touching the fashion and form of the entrenchments to be practised in this case; In the first place the ground and circumvallation of the utmost lines are to be well viewed and considered, whether it be capable for the whole Army to lodge in. And all such higher grounds or hills as are any way near unto this circumvallation, are to be taken in and included, to prevent the Enemy from planting his Cannon upon them, and so to beat upon the Leaguer, or into the Town. These entrenchments also are to be conveniently stored with Bastions, and guarded with Flanks. And if there be any River passing thorough the part, both sides thereof are to be commanded and well secured with Ports, or at the least Bastions: And (if it may be) the whole Work to be joined to some Fort erected within the Town it self, or at the least some Suburb thereof. And all these to be well defended with half-Moons and Horn-Works: The Suburbs themselves likewise (especially those that

lie most in the Enemies way of approaches) being to be entrenched and guarded with some Works answering one unto another, and joining one upon another. The main High-ways also leading unto the Town are to be secured by some Forts, and some Batteries to be erected here and there between them, furnished with good Ordnance to play upon all the Avenues of the Enemy. As for the Graft or Moat encompassing the whole circumvallation of the Trenches, it ought to be twelve Foot in the breadth, and eight in depth; and at the head-Works, eighteen feet in width, and twelve deep.

And thus much concerning the Incampings, Quarterings, and Entrenchments of an Army; purposely omitting the ordinary ways of lodging a particular Regiment; which is onely the diminutive of the other, and after the common way commonly known. And thus we conclude our second Book.

A
DISCOURSE
OF
The Requisites in making of
a War by Land.

Book III.

Of Discipline.

CHAP. I.

Of considerations to be taken before the entrance into a War, in point of Strength, Treasure, Country, Shipping; also in point of confederations, and the true justness of the War. Considerations to be taken in a defensive War. How a defensive War may be best made and maintained.



WE are in this third Book (according to our Method propounded at the first) to give some Animadversions about the third Necessary requisite in the making of a War; which consisteth

fifteth of matter of Counsel, Advice, Stratagems, and Martial Courts. Touching which, in regard of their variety, and the answerable dependants, I shall onely speak of such as may afford the most general use, and be most properly drawn into imitation.

And in the first place I shall begin with some considerations needful to be taken before the War be entered upon.

The Attempters of a War are therefore to deliberate concerning both their own Forces, and those they are to deal with. They are diligently to inform themselves of their Enemies Treasures as well as their own; how raised, how maintained: and chiefly they are to consult by what means he may be deprived of them, or of any part of them; and thereby weakned in those main sinews of Military strength.

The Enemies Militia as well by Sea as by Land, is likewise to be enquired into. And herein notice is to be gotten not onely of the number and value of his Shipping and Boats, but of his Mariners and Sea-Commanders: and concerning his Land-force, what numbers of Horse and Foot he is able to bring into the Field,
how

how armed, how disciplined, of what confidence and spirit; and to what Climate and Country entred; and how bred and brought up.

Diligent and heedful enquiries are also to be made of what condition the Enemies Country is that is to be invaded: As, whether it be strong by Nature, by reason of Woods, Mountains, Seas, Lakes, Rivers, Marishes; or artificially strong, by Forts, Castles, and strong Towns: of all which, the number, the site, the quantity of Munition, the number of the Defendants in every strength, and whether they be strong by Nature or by Art, or by both or by neither, are as much as may be to be known beforehand; that so the preparations may be made accordingly.

All these particular discoveries being thorowly made upon those who are to be invaded, no less diligence is to be used by the Invader concerning his own preparations; and especially in Monies, Munition, and Victual.

And he may be said to be well provided in the point of Victuals, when neither his Army in the Field need complain of scarcity, nor his Towns and Forts remain dis-furnished.

furnished. And of Munition, when he hath not onely a sufficiencie of great Guns for the Field, Sea, Batteries and Forts ; but also Armour of all usual kindes , with the Utenils due to a War , as Powder, Fire-works, Match, Engines, Balls, Gabions, Carriages, Beasts for draught and labour, Bridges, Ladders, Planks, Spades, Shovels, Axes, Sacks , Baskets, Timber, Cables , Ropes, Handmills, &c.

But besides all these, fit and provident confederations are to be made with all such foreign Princes and States as may either assist or hinder the War ; either for benefit, or Traffique , or for States-sake , or for necessity of dependance, or for alliance and consanguinitie. For these considerations being duly observed and provided for, the difficulties will prove less, either for the maintenance of the War, or the making of a Peace, as occasion shall at any time be presented.

The Justice likewise of the War ought to be divulged ; and that for a satisfaction as well to the natural Subjects , as the neighbour-nations. And this may be done by a publication of the original causes : that War being to be allowed for Just, which

which is (indeed, without false preferences) made for the true Religion, for just Liberties, for repelling of publick wrongs by a foreign State after refusals of redresses, in defence of Friends violently and injuriously oppressed: And that War Unjust, which is taken up for private Ends, Ambition, Revenge and Empire.

As touching such Invasions as are to be attempted by Sea and Shipping; whosoever intends them, is to assure himself beforehand of some commodious and sure Landing-places, that neither the Ships suffer wrack or eminent danger in approaching the coast, nor the Souldiers incur manifest hazard at their dis-imbarquing. And of the same importance is the fore-casting of a safe place of retreat; peradventure the Army should be repelled by extremity of weather, contagion of sickness, or the strength of the Enemy.

And thus far concerning such considerations and Counsels as are aforehand to be taken in point of an Invasive War.

As for such as are to be practised in a War Defensive, (though the surest Defence is Offence) yet such as are forced

unto

unto it, are by all means to assure themselves of their neighbours by Leagues, or by provision of Treasure to defray all charges, or by an Army so governed by discretion, that no fight be admitted in heat and rashness; and yet so avoided, that the Army may not seem to forbear the battel for fear (which may utterly discourage the common Souldier, or encourage the Enemy) but rather as done out of policie. And withal, that the Country be on all sides walled where the Enemy is to pass; so that nothing may be found for him to make use of. And in the interim, the defensive Army to be commodiously entrenched, having withal a guard upon the Enemies Army on all sides; that no relief, or as little as may be, may be brought unto it.

This defensive War may also be maintained by the erecting of Ports, and the fortifying of Towns: for hereby the Defendants may not onely secure their lives from all sudden irruptions, and keep short the Enemy from relief, but defer battels at pleasure, and thereby abate the Enemies rage and pride.

As for the parts where these Fortifica-

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rions are to be raised, they are those which may give the most impediment to the Enemies attempts, and most security to the Defendants; as upon the Sea-coast, the Ports and Landing places: and in the Mid-land parts, upon Narrows, and streight passages, and the Capital Cities. And these Forts are not to be so great, but that they may be manned and furnished, as well with Munition as Men, without the weakning of the main Army in the field, nor to be so small, but to be sufficiently capacious to receive the Peasants, and the best of their substance, in case of necessity.

CHAP. II

Of a Defensive War, how best made and maintained. That when a Victory may be gained without blows, a Battel is not to be admitted. How Troops suspected either for courage or Loyalty, are to be ordered in Battel. What part of the Enemies Army is first to be charged. Requise considerations in and after Battel.

IN the foregoing Chapter (occasionally) we made some mention touch-

ing the avoiding of Barrels in case of a defensive War. But in this, we shall enlarge our advertisements concerning that particular.

It hath been always a sure maxime of War, that whensoever by foresight well grounded, Victory cometh towards one without blows, or wounds; as either by blocking up the passages, and so cutting off all supplies, or by any the like means; that in such cases an Enemy is not to be assaulted, nor admitted to the terms of a Battel: for it sits better with the worth of the spirit, and the essence of our nature, to direct the course of an action, that an Enemy may be conquered rather by Wit than War.

And hereof we have an example in *Caesar's Commentaries*: where *Caesar* having shut up *Afranius* and *Petereius* in a place of advantage, although he might have cut them to pieces by an assault, yet seeing the Victory sure without a fight, without blood, and without hazard; he answered his Captains who urged him to storm them, *Cur secundo alio aliquos ex suis amitteret? Cur periculi pateretur, optime de se meritis*

milites? Cur denique fortunam perichlitarer?

And indeed, before the falling upon a battel at any time, these following particulars are constantly to be received:

That a view be taken of the strength of the Army, and impartially compared with that of the Enemy.

That the place of Battel be near some safe Retreat, either of a Camp well entrenched, and sufficiently left with Guards; or some Town of defence near to friend.

That all courses be taken to give courage and confidence to the Souldiers; either by some fit applied words of exhortation, or by some encouraging stratagem, or by shews of contempt of the Enemies strength, or augmentation of his own, or by making shew of some secret intelligence from the Enemies Camp, or reporting some rumours of their fears and diffidence.

That in the ordering of the Army to the Battel, the Enemies order be heedfully observed; as also the site and form of the place and ground where the Battel is to be fought: so which an answerable ac-

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commodation is in every respect to be observed, as well in relation to the form as number of Divisions: as also for the ordering of the Artillery to the best use, and most annoyance of the Enemy.

And if there be any new Troops that may be suspected in their worth, and especially loyalty: That they be placed rather in the Battel, or Middle-Guard it self, then any of the Wings: for being thus ordered, they shall neither be so put to it in point of courage, if they be wanting that way; nor can they find means or scope to fling out, or to take advantage to a mischief, as if they were ordered in the Wings: for the Wings in a set Battel, are the strength of it, and the principal instruments; and it hath ever been found, that as long as they stand firm, the day stands fair: for by them the Enemy is kept from surrounding the main body of the Army. And the same Army in the mean time hath the advantage of charging the Enemy in the Flank upon all occasions and opportunities.

Consideration is also to be had, whether it be for the advantage to charge, or to attend the charge. If to charge (which

is most approvable in an open Country, than that it be performed with the whole Front at once, rather than by light skirmishes in the Wings and Corners, lest such of these as may chauce to be rebated upon the Main-Vanguard, strike a terror, and perhaps disorder through the whole body of the Army; of which there have been infinite examples.

An especial observation is likewise to be made touching the part of the Enemies Army which is first to be charged. With the Ancients and many of the Moderns it was a Maxime, that it was to be the weakest part. And this was practised by *Cæsar* in his first Battel with *Ariovistus*, and by *Scipio* in *Spain*. And the motives hereunto seem to be, in regard that most judgments are favourable to that which happens well at the first; the sequel of every action depending for the most part upon the beginning; neither can there be a good end without a good beginning: for though a beginning be often disastrous and unlucky, and the end fortunate and happy, yet before it came to that end, there was a fortunate beginning. And therefore that an Army might foresee a happy end in a

good beginning, it was the ground of this Maxime, that the beginning of the assault should be with the best of the Army upon the weakest part of the Enemy.

And yet contrary to this Axiome, that absolute and glorious Souldier, the brave King of Sweden, in the battel of *Lutzen*, gave order to have the strongest part of the *Swedish* Battel to be first charged. For being the *Cuirassiers* of the Enemies Horse a one Division by themselves in the rear, and the *Cra-brats* the light-armed in the front; *Charge home* (saith he to one of his prime Commanders) *these black companies in their compleat Arms, for these they will put us to it; as for the Cra-brats, I care not for them.* By which it is manifest, that the ground of this his direction was, that the flower of the Enemies Army being well put to it at the first (and this was likeliest to be done best, when his men were at the freshest) if they should once be routed, it would not onely occasion a dismay to the part where they were, but leave an easier task for the routing of the rest behind. Neither for my part do I find less reason for this, then the Ancients and the others did for their practice.

Lastly, Care is to be taken before the charge be given, that a Watch-word, or rather some particular signe and visible token, or both the one and other, be imparted to the whole Army, that in all medies they may be known one to another, and distinguished from the Enemy: and then to give the signal of Battel. And the rather, if either any fear or disorder be perceived amongst the Enemy, or a forward desire and heat to the fight with his own men. And these are the observations and directions requirable before a battel be accepted and joined.

The requirables in, and after it, are these following: That during the heat of the fight a vigilant eye be carried upon all mutations, that so all disorders may in due time be either prevented or repaired. That if the General (after the fight) finde his side to have the worst of it, he act according to that which shall be observed in the Enemies order, and the courage of his own men; and so apply himself either to rejoin or retire, executing accordingly with vertue, industry, and providence. That if after the fight he find himself to have the best of it, he thorowly to his uttermost

most prosecute his Victory ; and take from the Enemy all means of reuniting his Forces : That he equally distribute the Spoil, with a due respect to the quality of the persons, and vertue of the delervers ; lest (as now adays in the disordered discipline of the age) those come to most gettings which come to least blows : That (over and above the common distribution) all eminencie of worth, wheresoever it be found, be rewarded. And herein were to be wished a renovation of that Roman way, to give some portable marks of honour, together with a sufficiencie of competent subsistence : That (on the other side) all Cowardice be punished, even to the least touch of it, wheresoever it shall be found : That mercy be used to Captives, and good Quarter given them ; That the dead on both sides be buried ; That the acceptable sacrifice of thanksgiving be offered to the great giver of Victories, as the gift earnestly and humbly craved of him, before, at, and after the attempt.

CHAP. III.

Of the pursuit of a Victory. Reasons for pursuing a beaten Army, rather then taking in Towns. Of mercy to Captives, termed, Giving of Quarter. Of Quarter to be given to Neuters. Orders to be observed in the taking of Prisoners.

HAVING in the last foregoing Chapter made onely a mention of the pursuing of Victories, and the shewing of mercy to Captives (in the very latter end of the Chapter) we shall in this enlarge ourselves touching both these particulars, as being points of main consequence and concernment.

Touching the pursuing of a Victory after the gaining of a Battel, it hath been much controverted amongst the greatest Commanders, whether after the routing of an Enemies Army, the broken Army should be thoroughly pursued; or the Conquerours should apply themselves to the taking in of some Frontier Towns belonging to the beaten side.

Those that hold for the taking in of Towns

Towns, have delivered these reasons; That the great astonishment that generally befalleth to such as are beaten out of the Field, doth commonly so extend it self to all the Members of that party, that meer fear may procure a rendry of a strong place at the very first summons, or within two or three days; which at another time would not be carried in twelve moneths, or perhaps not at all. Secondly, That the taking in of one strong Town is many times of as much importance as the routing of a fresh Army of the Enemies; and especially when hereby the Enemy shall be deprived of all Retreats in those parts. Thirdly, That a routed Army thinks of nothing but flight; and therefore is not to be overtaken and staid without great difficulties, and much harting and royl of the pursuers. Fourthly, That a beaten Army thus flying, falls to pieces of it self, and deserves not any great regard; much less are any important opportunities to be neglected upon this consideration. On the other side, such as argue for the thorow pursuit of a beaten and flying Army, alledge that hereupon the one of these two effects must necessarily follow,

low, either that the Enemies Army shall hereby be absolutely defeated, or that they shall be constrained to capitulate for their Retreat: whereas if they shall be quietly suffered to pass without a perfect Rout, their able Commanders may find means in a short time to become once more able to march.

For mine own part, when I consider of the reasons on each side, I am made the most inclinable to those that hold for the thorough pursuit of the beaten Army. For though a Victory by the gaining of a battel, may perhaps strike some terrour amongst Besognes and fresh-water Souldiers, and with such procure an easie recovery of such Towns as are manned with such men; yet with old Souldiers (though beaten) having true Commanders, who always sell themselves dear, it procureth a quite contrary effect, and obstinately them to all kinds of possible defence. Besides, though the taking of some one strong Town may (as it may be fited) prove as gainful as the routing of an Army of the Enemies, yet whensoever the taking of any such place shall cost much time, it shall not onely weaken the Victo-
rious

nious Army that besiegeth it, and retard it from making use of the Victory lately gotten; but give the beaten Enemy liberty and opportunity to reinforce their Troops, safe-guard their Ordnance, and either by way of diversion, as falling upon some other part, or by making head against the besieging Enemy himself, and cutting him short from Victual, quite alter the Face and fortune of the War. Again, though a routed Army may perhaps for the time think of nothing but a flight, and this may hasten it so, as may cost some time and labour in the pursuit; yet being hotly pursued by the Horse onely of the Victorious side, it must needs suffer extreemly, and especially the Infantry part, and ten to one in the loss of their Artillery and Baggage. And all this done without any great or remarkable disturbance, or harassing to the pursuing Army, whose very Horse alone is to put hard to it upon the chase; the foot having liberty to march fair and easily after, and may come time enough nevertheless to fall up with the flying Enemy, being thus retarded by the Horse.

And I am confirmed in this opinion by sundry presidents, (amongst which, two are

are very punctual) set down by that able French Commander *La Noue* in the domestic Wars of *France* during his time; being the one of them, that Siege of *Portiers*, which became the ruine of the Army of those of the Religion, after their Victory at *Rochebelle*: the other, that of *St. Jean d'Angelis*, which proved the like to the French Papistical Army, after their Victory at the battel of *Montenour*. Whereas on the contrary, the King of *Sweden* after all his gained battels, did hotly and thoroughly pursue the utter overthrow of his Enemies scattered Troops; and in regard of that, neglected, or at the least suspended the taking in of any of the neighbor Towns whereabout the battels were fought. And by this course prevailed, to admiration.

And thus much touching this great controverted point, Whether after a Victory in the field the routed Army be to be pursued to an utter ruine, or the Victory to be made use of by the besieging of some Towns belonging to that beaten side.

As for the mercy that upon the attainment of a Victory is to be shewed to the Captives, generally received under the name

time of giving good Quarter; and by the French called *Bonne Guerre*; it prohibits not onely the killing and murdering of any, much less of women and children, or the slaying of any in cold blood, or the not receiving such to mercie (that is, the not giving of them their lives) who shall give up themselves and their Arms prisoners after the fight is over; but also all base and barbarous ravishments of women, and the like cruelties. And withal (as it is now in practice in our neighbour-wars) all prisoners, being enrolled Souldiers, are to be freed at the ransom of a moneths pay, according to their severall conditions.

But this general rule is not without some exceptions: for if the Governour of a besieged Town or Fort shall defend the place he commands so obstinately, that it be stormed and entered by force, and so by an assault taken, and hereupon he yields himself after the heat and violence of the fight be over, to a private Souldier; it shall nevertheless be lawful (without any breach of Quarter) for the General of the assaulting Armie to make him die; because this obstinate and wilful defence was a trespass

pass against the person of the General and the whole Armie, and cannot be privileged by any condition with a private person. Also if a private Souldier shall give Quarter to any Fugitive or Spie, or any one that hath at any time practised for War, or broken Quarter; or to any other which hath formerly deserved death for some capital offence; it is at the Generals pleasure whether this shall be made good unto him or not. Likewise, if during the fight of a Battel, many prisoners have Quarter given them upon the routing of some parts of that Army, and afterwards some parts and divisions of it, as the Battel or the Rear, holding firm, give on so stoutly, as that the fortune of the day inclines to a change; and those that had the best of it at the first, begin to be shaken and in danger: it shall in this case be held no crueltie nor breach of Quarter, though those prisoners that were taken at the first, and had Quarter promised, be presently slain in the field by such as took them; because otherwise they may endanger those that took them, or at the least ask more hands for their safe keeping then the exigent will allow to be idle.

And

And thus befel it in one of our bravest battles with the French in *France*; where the French prisoners which were taken at the beginning of the battle upon *Quar-*ter, which were very many, and many of more, upon a second charge given by the Duke d'*Alençon*, were all commanded to be slain; which cost the French doubly dear, the loss of all their prisoners, and the utter routing of their puissant Army.

It is thought also by some, that the subjects of a State Neutral that shall entertain Traffique with an Enemy to another State, may by that State be made prize, and no Quarter to be given them, at least in point of goods. For (say they) though they do not this out of any affection of either love or hatred, but only to make their benefit, and not to any proposed relief; yet doth this transport of Merchandise prove a plain and direct aid: And in that regard, howsoever brought to the Enemy, deserveth to be punished with confiscation at the least; because that out of them Customs and Imposts are raised, whereby their War is maintained. But of the right of this I make a *Querie*; thinking it rather to be understood onely of

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Munition, and Materials of that nature; for otherwise it must necessarily overthrow all manner of Trade, and set the whole World together by the ears.

Touching such orders as are to be observed in the taking of Prisoners by those that take them, I finde them to have been these, by those of our own Nation. That if any Common Souldier did take a prisoner, and another coming up at the same time should challenge the half of his ransom, or else threaten to kill the Prisoner, the menacer was to have no part at all of it; notwithstanding the taker of him had made him any such promise. And if the Menacer did kill the Prisoner, he should be under Arrest with the Marshal untill he compound with the partie for the loss of his Prisoner; and besides, he was to forfeit his Horse and Arms to the Constable.

That if any Souldier in any fight did beat down any one of the Enemy, and leaving him, pursue on in the chase or fight, and another come up after him and take the same man prisoner; this Prisoner thus beaten down, and thus taken, when he was to be ransomed, was to pay the

the one half of his ransome to him that first struck him down, and the other half to him that took him prisoner.

That whosoever he were that took any Prisoner, he was, as soon as possibly he could, to present him to his Captain or Commander, upon the penalty of losing his part of the Prisoners ransom to the said Captain or Commander; and the Captain or Commander to present this Prisoner to the General, Constable, or Marshal of the Army, before any other speak with him; that so his examination might be duly taken. And this to be done under the penalty of losing his Thirds of the Prisoners ransom (which otherwise was due unto him by his place) unto him that did first discover the default unto the Constable or Marshal. And that every one in whose custodie this Prisoner should chance to be, was to be careful to conceal from him all the secrets and Avenues upon the Camp: To which end, he was not to be suffered to walk at large, nor to range about without a good Guard upon him; and this upon pain of losing his Prisoners ransom; whereof the one third part was to be allowed to his Captain, the other third

to the Constable, and the last to the Informer: And the person also of the Delinquent to be under arrest at the Generals pleasure. Neither was any man to ransom his Prisoner without Licence of the General, or the Constable, or Marshal; nor any private person to give any safe-conduct to any Prisoner, upon pain of forfeiture of all his Goods, and his body to be under arrest during the Kings pleasure. And whosoever violated the Kings or Generals safe-conduct, was to be hanged, drawn, and quartered.

And being thus fallen upon the punishments of Delinquents in a Martial way, we shall in the next Chapter say somewhat of Martial Courts.

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CHAP. IV.

Of the Martial Courts in an Army Royal : the manner of Trials in them. Of the punishments inflicted upon Delinquents in these Courts. Of punishments in crimes not capital.

IN a well disciplined Army three several kinds of Martial Courts are to be instituted : for it is a noveltie to have Martial Law denied in the Government of an Army in the Field, and an absurd one.

The first Martial Court consisteth of all the Commanders in chief, with the Colonels, and Judge-Marshal General. And this Court, after due notice taken of the offence, pronounceth sentence accordingly. And from this Court lieth no Appeal; but to it may Appeals be made from any of the other two.

In the second rank are those Courts which are Weekly held in every Regiment, and oftner if cause require. And the Colonels of the Regiments, with the Judge-Marshals, here sit in their several
Q₃ Courts

Courts, and pronounce sentence upon the Delinquents of their several Regiments.

Of the third rank is that Court where the Judge-Marshal of the Army, and the Judge-Marshals of the Regiments sit, and onely they. And this Court takes notice of all Causes both criminal and civil; and is instituted for the ease of the Commanders. And into this Court the offenders and their offences are presented by the Provost-Marshals of the Regiments; whose office also it is to produce the accusers, and to attend the trials and censures; the which they are also to see executed.

Touching the manner and form of the Trials in all these Courts, they are not much dissonant from those in Courts Criminal ordinarily practised: for the accusers are heard upon their oaths, as also the witnesses. And the accused have full libertie to speak for themselves, and are to be heard with patience and equanimitie. Onely the Decisions, in stead of common Jurors, are passed by most voices, being the Votes of such Commanders as sit Judges in the several Courts; and the Gen-
sure

sure pronounced for the most part by the Judge-Marshall; or in his absence, by the President of the Court for the time being, who is commonly the most eminent Officer amongst them. And these Forms and courses of Trials seem to me without exception; and are so proper and essential to the well regulating and Government of an Army, in regard that delays of execution upon Delinquents in many cases cannot be endured without thousands of varieties of danger; that for my part I cannot understand how an Army can subsist without them.

As for the punishments inflicted upon Delinquents by these Courts; in capital cases, they are, Shooting to death, which is held the fairest; Hanging, and sometimes Empaling. That Delinquent is to be shot to death, who killeth any man in Duel within Cannon-shot of the Camp; or that maketh any attempt upon the Enemy without direction or leave from his superiour Commander.

He is to be hanged that Robbeth, Murders, desperately and obstinately Blasphemes; that is a Mutineer or an inciter of Mutinies; that rescueth offenders

from the execution of a Censure: That striketh his Commander: That wilfully dischargeth his Piece to give a false alarm in the night, or in any ambush by day: That licenseth Souldiers for money to leave the Army, without leave of the General: That takes pay of two Captains: That fights or quarrels in the instant of service, or upon the expectation; in which case also it is permitted for any Souldier to kill such a Souldier: That absents himself from his Duties: That abandons his Colours in danger to be lost: That disperseth false News or Reports, of purpose to discourage his Companions: That straggles from his Colours in a march, or keeps not his appointed place: That gives not the Alarm to the Camp upon just cause when he stands Centinel: That answers not all Alarms: That goes out of the Camp or Trenches by any extraordinary way save the common ones: That sells his Horse or Arms when Service is expected: That succours not his General or Captain being in danger: That quits a place committed to his charge being not enforced by the Enemy.

That

That offender is to be Empaled, that willingly and of purpose changeth the Watch-word, or makes it known to the Enemy: That committeth treason against the person of the General, or Army in general: That poisons the Artillery, or by any ways maliciously makes it unserviceable, or endeavours to make it so: And lastly, That entertains any secret intelligence with the Enemy. And these are the capital punishments for capital offences.

As for the inferiour and less capital: He is to be imprisoned that fights, swaggers, swears, couzens, drinks drunk: That is a common Gamester, absents himself from his Quarter by night: That pays not the Merchants, Artificers, or Victuallers their dues: That either by negligence or folly discovers any purpose or intention of the Army: That strikes or bears any Souldier without cause: That neglects Divine Service.

He is to undergo the Cudgel, that is contumax or insolent towards his Commanders: That keeps not his Arms clean and in point: That either sells or pawns his Arms; or buys or takes any Arms to pawn.

He

He is to be disarmed or banished the Army, or Strappadoed, or Whipped, (but this last is seldom to be given to a Soldier) that shall obstinately persevere in any crime whatsoever. And these, and such as these, are the crimes punishable in Martial Courts: And indeed any other crime whatsoever, which shall tend to the disturbance of the Army, or the debauching of the Soldier.

CHAP. V.

Of the laying and preventing of Ambushments. How a discovery upon an Enemy may best be made. Of the fittest places for Ambushments. Of the service of Horse-men and Foot-men, which to be preferred.

WE shall in this Chapter give some advertisements (and that very briefly) about two particulars not yet mentioned; Touching the laying out of Ambushments; with the prevention of falling into them; and the comparing of Horse and Foot in the advantages and dis-

Advantages they have one of another; that so the discreet Commander may make use of them accordingly.

As touching the laying out of Ambushments, the especial point to be aimed at and heeded, is, That it be done in such a part as may least be suspected; and in such a manner, that the Enemy may fall within the danger of them. To give colour whereunto, one common trick hath been, to pretend aforehand (in such a kinde, that the Enemy may so conceive it) some fear, and so a flight; or some want of necessaries, and the like; whereby the Enemy may be drawn to a more eager and bold pursuit, and so the more heedlessly and unrecoveredly fall within the danger of the Ambush. And many other the like practices of this nature may be thought upon to this purpose.

As for the courses of prevention from falling into these Ambushes, it is a good general rule to suspect all sudden removes and fallings off of an Enemy. In which case an exact and cautious discovery is to be made, even to the very place where there is any intention to lodge. And the manner observed in these

these discoveries have usually been, to send out Parties in three Companies or Divisions: the first to consist of a small number, to beat the way at ease, and to range about from place to place, where any danger may be expected. The second Partie to be somewhat stronger, the better to second and bring off the first upon all occasions. And the third to be so strong as to make head against, and to engage a strong Partie of the Enemy, if he shall present it. And thus did *Cyrus* in his so famous descent dispose of his fore-runners and discoverers in the like case, (as *Xenophon* lays it down) and that with very good success.

And it is to be noted, that these discoveries are ever to be made with the light-armed Troops. For it being a point of no small concernment, to be thoroughly informed of the true distances of the places, the condition of the ways, the nature of the hills, and the course and passages of the Rivers where the Army is to pass; this cannot better be performed (nor so well) as by the light-armed. And being by them thoroughly

roughly done; afforded incomparable advantages; good discoveries being the very eyes of an Army, whereby the resolutions of providence are guided, and the path of safety delineated, that so there may be no stumbling upon casualties. And all this is attained by a perfect intelligence of the true face of the Country, and in knowing the motions of the Enemy. And the face of the Country is best known by the use and employment of the native Guides of the Countrey; provided that they be always associated with some faithful Scouts of ones own, that so there need not be an absolute reliance upon a strangers information. And as for the motions of the Enemy, they may be surest had by the light-armed Horse; who nevertheless are not to be over-forward in informing upon every new trifling motion, but to have their intelligence confirmed unto them by divers and various ways and means; lest some error and mistake befall them thorough passion or affection: as to those in *France*, who thorough the passion of fear took a field of great Thistles, for a mightie Body of Pikes.

As

As touching the fittest persons to be laid out in Ambushes; It is to be considered, that all Ambushments are made use of either to endanger and ensnare the Enemy in a fight in the Field, or to entrap and hinder him in his march. And examples of each sort are found frequently practised by that subtle *Hannibal* in his Italian Wars: In the first whereof he constantly employed as well the heavy armed Souldiers as the light. In the second, the light-armed alone; whose agilirie and expedition gave them opportunity and advantage with their missile weapons to assault and annoy the Enemy, though the ground were never so strait or uneven. And these also might be more easily lodged without discovery.

As for the parts and places most proper and fit for the receipt and lodging of these Ambushes; they are such as are most removed from the view, as Woods, Mountains, Forests, Rocks, Banks of Rivers, Hollow and deep ways; In short any place or piece of Ground; where some numbers and Troops of Souldiers may best lie obscured and hid.

thus much touching the ordering and disposal of Ambushes, with the use of them.

We are now to fall upon a comparison between the Cavalrie and Infanterie in point of War; with respect to the advantages or disadvantages they have one above another; according to the several services and occasions they may be employed in. Touching which, such as prefer the Foot-men or Infanterie before the Cavalrie or Horse, give these Reasons: That the Foot may be employed in all places, and upon all occasions; whereas the Horse in craggie and rough ways are of little or no use at all: That the Foot are more ready and less chargeable; and being well led and armed, indure the shock better then the Horse can: That in the guarding of Towns, and all places of strength, Foot-men have the priority of Horsemen; in respect of the point of Provisions; it being more difficult and troublesome for a Commander to feed his Horses, then to feed and discipline his men: That at assaults of Towns, Horsemen are of small use, if they leave not their

their Horses ; and then they are no longer Horse-men : That at set Fields and Battels, Foot-men having means to entrench themselves, and having good Pikes and store, have always been found more then equal to Horse-men. In Levies, Foot-men are more speedily raised, and led and lodged with more facilitie. They are paid with less charge then the Horse : They fight more safely, rally themselves more certainly, and easily. And lastly, Horse are hard to be found in any great numbers ; for it may be believed that there are twentie men to one Horse in the World. And these are the proper priorities of Foot-men over Horse-men, which have been observed, as well by the Antients as the Moderns. To which also (in mine opinion) may be added, That the Foot are by far more fit for all sorts of Ambushments then the Horse can be, in regard they may be lodged more secretly ; and especially in respect that Horse are very subject to discover themselves by their noise and neighing. And besides, the best man of courage that breathes, in a fight subjected to the disorder and

unmanageableness of his Horse that he rides upon.

On the other side, those that prefer Horse-men before Foot-men, give these instances: That a Horse-man hath stronger and better legs than his own: That he chargeth more furiously: That he hath more force and breath than a Foot-man: That Horse have the advantage in long marches and hasty pursuits: That they have more means to surprize an Enemy: That they have more opportunities to approach, to seize upon, to cut off, and to hold all passages; to invest Towns on a sudden; to answer Alarms and to give them; to command the Field, to make a retreat, to cut off all supplies, either of Victuals or Munition, then any Foot can possibly have.

And thus we have done with these two sects, and finish the Chapter.

CHAP. 6. Of the Use of Artillery.

CHAP. VI.

Of Stratagems of War. How to breed a causeless fear; or the contrary. To give assurance to the besieged being in fear. To draw an Enemy to an over-daring, or into an over-security. To discover whether a Town lately received to Quarter be to be trusted. How to appease an Army murthering for pay upon a fight. To avoid Battel when an Enemy is far too strong: or to engage him to Battel when too weak. Of desperate attempts in a desperate condition: they are to be charily and warily handled. To prevent partial respects in giving of Counsel.

IN the last Chapter having laid down some rules for the ordering and disposing of Ambushments, we shall in this take occasion from them to intimate somewhat concerning Stratagems of War. And because these are so diversified and varied upon several occasions, that for the most part they are in that respect be-

beyond any set rules; we shall onely particularize in such as being of the most general extention, may happily be made use of by way of Renovation and Imitation.

And we will begin with a stratagem, whereby a besieged Enemy may be encouraged and terrified by a supposed Mine when there is none. And this was practised by *Philip* King of *Macedon*, (not the father of the great *Alexander*, but he who was afterwards vanquished and subdued by the Romanes) who besieging the Town of *Prinassus*, attempted it by a Mine; but finding the earth and parts so stonie, that it despaired him of success that way, he caused his Pioneers to continue the semblance of working, and to make an extraordinary noise under ground; and the more to add a belief of their working, he caused a great quantitie of earth to be brought secretly in the nights from elsewhere, and to laid in heaps at the entrance and mouth of the supposed Mine, that the Enemy might well discern it, and suppose that it was taken and digged out

of the Mine. And after some time spent in this manner, he summoned those of the Town to a rendition; sending them word that by his underminings, their Towns Wall, to the quantity of two acres of ground, stood onely upon wooden props; to which whensoever he did give fire, that part of their Wall would lie flat on the ground: the which if they did attend, and cause him to enter by a breach, they were not to expect any Quarter or Mercie; and therefore wished them to consider of their condition, and to do as they found cause. Now the *Prussians* little thinking that these heaps of earth which they saw, had been brought from other places, but that it had been taken out of the Mine; so lost their courages, as that they suffered themselves to be overbraved, and thereupon gave up their Town upon a meer panick fear.

And as this was a Stratagem to occasion and work upon a false fear; so these three following were to recover from the like.

The Soldiers of *Alexanders* Army
be

being on the sudden in a great fear, of they knew not what, *Alexander* at that very instant caused them all to be disarmed; whereby they became assured that this would not have been commanded, if there had been any present danger.

Clearchus to pacifie a foolish consternation and uproar of this nature amongst his men, proclaimed a reward to him that could tell who had sent the *Als* into the Camp. And thus by doing somewhat quite contrary to that which the peril would have required had it been true, he gave a full assurance against that which was false, and which his men had onely fathomed in their amazed imaginations and conceits.

The third example to this purpose which withal also expressed a magnanimitie, which both sustained Reputation, and augmented it, was that act of the *Romans*, which was done when *Hannibal* made his bold approach upon the City of *Rome*, whilst the main of the *Roman* forces were at the Siege of *Capua*. For the Commanders at *Rome* finding

finding that the City by reason hereof was subject to Pears and Tumults, at the very same instant caused a supply that had formerly been appointed for *Spain*, to march out of the City at one Gate in pursuit of their first Resolution, whilst the *Carthaginian* Armie lay before the other; whereby they not onely checked the bold confidence of the Enemy, but took off that fear which clouded their own Valour.

To which purpose also that very piece of ground on which the *Carthaginian* Armie lay encamped, was at the same time sold in *Rome*; and bought (saith the Story) nothing at all under the Value, but at the same rate as if it had been in the former times of peace. The which act and sale, so madded even *Hannibal* himself, that to make a shew of being even with them, he made a Port-sale of all the Silver-Smiths Shops which were near about the Market or Common place in *Rome*: As if he would seem to think that his own Title and Interest to those Shops within the Town, was no jot worse than any

any *Romane* Citizens to that piece of ground where his Tent stood.

But this Counter-piece of *Hannibals* was not of so good stuff as that of the *Romanes*: for their act was indeed a thorough manifestation of an assurance grounded hopefully, and was onely acted to stir up the courages of their men; whereas *Hannibals* was onely a passionate shew, and an angry Brave of a continuance in a hope which he well knew was already past: His Victuals being at the same time so near at an end, that of all those Hopes and Ends which he had propounded to himself by this his approach so near unto *Rome*, the same onely of his much daring is left to posterity.

It is true that *Hannibal* partly was quire with these *Romanes* by a Stratagem of another nature, that he put in practice at *Tarentum*; when having surprised the Town, and entering it at two several Gates, so that the *Romane* Garrison with the Governour were forced to retire themselves into the Citadel, the which it behooved *Hanni-*

but speedily to take in, in regard of the Vicinitie of the *Roman* Armie: he addrest himself against it in such a manner of Brave, as was likely to provoke the Garrison to a Sallie; hoping hereby to give them such a blow as might disable them to defend the piece any longer.

And according to his expectation, the *Romanes* not enduring in such a slighting fashion to be approached upon, sallied out in a heat of furie with most of their bravest men, and charged them home. But *Hannibal* having ordered beforehand that his men should thereupon fall back as if they were terrified, until he had drawn out as many of the besieged *Romanes* as he could, and as far from their strength as he could; he then gave the signal to his *Carthaginians*, who lay prepared and ambushed for the purpose, and suddenly and fiercely setting upon the sallied *Romanes*, not onely forced such as were nearest home to retire themselves into their Hold, but laid on the ground all the forwardest and best of their men;

so that they durst not issue out a second time, but were constrained to suffer *Hannibal* to make his approaches at pleasure, whereby he forced the place.

And as this was a Stratagem to draw Souldiers into an over-daring, so that which followeth is to win them into an over-securing; and was acted in this manner:

Antiochus the Great, in his Minority was wholly governed by one *Hermias*, an ambitious man, and a maligner of Vertue. At the same time one *Mada* the Kings Lieutenant in *Media* was broken out into a Rebellion, and sought to make himself Lord of that Province. *Antiochus* being entered at the same time into a War with *Ptolemy Philopater* the Egyptian King, was counselled by his Minion *Hermias* (who had put him upon the Egyptian War) to send against this Rebel who was but a Captain, a Captain that was faithless; but himself to go in person against the King of Egypt, who was a King like himself. Hereupon one *Xanthus* an *Achaean*

Achaan (by *Hermias* his choice and preferment) was sent with an Army against the Rebel *Melo*, whilst the King *Antiochus* himself marched against the Egyptian.

This *Xenetas* drawing near unto the River *Tigris* with his Armie, on the other side whereof the Rebel lay to hinder his passage, made a shew as if he would pass the River by Boats in the very face of the Enemie; but leaving so many onely as he thought sufficient to defend his Camp, he himself, with the flower and strength of his Armie passed over *Tigris* in a place ten miles lower then where *Melo* lay entrenched; who hearing of it, sent out his Horse to give impediment: But finding that *Xenetas* could not be stopped, he practised this ensuing Stratagem to draw his Enemie into a snare of securitie. He no sooner found that *Xenetas* with his whole Armie marched towards him, but presently he dislodged, making a shew of taking a hastie journey homewards: and to possess the Enemie that it was done in a fear, he withal left

all

all his Baggage and Victual behinde in his Camp. *Xenetas* hearing of this his Retreat, easily suffered himself (more like a Courtier then a Souldier) to believe that the Enemy durst not so much as look him in the face; and the rather, in that he was informed that he had left his forsaken Camp well stored with Victuals and Bootie: whereupon hastily marching thitherward, and finding it to his expectation, he not only suffered his men to feast and drink to their full; but invited and commanded them to do so, making proclamation that they should cherish up themselves against the march that he intended to begin the next day, in pursuit of the flying Rebel. But *Melo*, who removed no farther the first day then he could easily make back again the same night, understanding what good rule the Kings men kept with his Victuals, made such a speedy and oportune return, that he came upon them early in the morning whilest they were yet in their Wine and Cheese with his full force; and giving them a lusty Camisado;

sado, so confounded them amidst their pots, that their General *Xometas*, with a very few besides, dying fighting, the rest were slaughtered ere they could finde their Arms, and the most of them before they were perfectly awake and recovered of their Wine; leaving by their over-security an absolute Victory to their subtle Enemy.

And because it is a requirable providence, after a General hath obtained a Victory, and received his Enemy upon Quarter, be it either in a Town newly taken in, or in the Field, to be wary of an over-confidence in their Faith and Loyaltie (especially when the Enemy is near) but rather by all searching ways to discover, if it were possible, their very hearts: That Stratagem which to this purpose was practised by the Spaniards at their taking of the City *Verona* from the Venetians, may serve for a president for the future in the like case; which was this:

The Venetian Armie lying near unto the Town which was not long before

fore taken in by the Spaniard upon Composition; the Spanish Governour aiming to understand how the Burgers and Citizens in general stood affected to their old Patrons the Venetians, gave secret order to the Spanish Garrison that was in Guard of the Town, that in the dead of the night when the Towns-men were asleep, they should run to and fro about the Cirie, and cry out, *St. Mark, St. Mark*, as if the Town had been surprized by the Venetians. The which cry being readily answered by as many of the Citizens as secretly favoured the Venetians, and were ready to receive them; the Spaniards observing their Houses, marked their dores with some Chalk, or the like: And being thus discovered, the Governour the very next morning imprisoned the chiefest of them, and confiscated all their Goods; whereby he not onely secured the Town, but contented the Garrison with the confiscations; the Souldiers being at the same time inclinable to a mutiny for want of pay.

Nor

Nor is there any thing of a more dangerous consequence, then for an Army (especially upon the point of Action) to be found in this condition of a Mutinie for pay. And the ill effects thereof have many times sorted to an absolute ruine; and above all other parts, in the Wars of *Germany*, and chiefly of late years; where the common cry, even at the exigent of a Fight, hath been, *Ghelt, Ghelt, Money, Money*: And sometimes occasion taken thereupon by the Souldier to seize upon the persons of their Commanders, and to deliver both them and themselves to the Enemies mercie. For the cure, or at the least Palliation of which desperate disease, some brave Commanders have been forced (with good success) to practice this Strategemical course: To borrow of their chief Officers, upon fair and promising terms, such sums of money as could be gotten and spared on the sudden whereby was attained not onely some satisfaction for the Common Souldiers, by letting them feel some piece of

Pay,

Pay, and making them to apprehend that their General had a care and love of them, by thus engaging of himself to give them content; but also a Tie upon all the Officers that made this Lend, causing them to be true and faithful unto the General who had borrowed these moneys of them; that so they might be in the better possibility to reimburse their lent moneys, with the usury of a thankful acknowledgment.

And an example of this we shall finde punctually practised by *Cesar* (recorded by himself in his *Commentaries* of the Civil Wars between him and *Pompey*, cap. 14.) For being to pass suddenly into *Spain*, and to pay a great Armie, which required much present money; he borrowed all the money he could of his *Censurers* and *Tribunes*, and gave it out presently and publicly to his *Souldiers*: whereby (saith he of himself) *Cesar* both engaged his *Captains* to a dependencie upon him, in respect of their Lend; and won the affection of his *Souldiers*

err by his Largesse, and made them willing to fight. Now though an Army be never so well affected to their General, and is willing thereupon to engage their lives in his Quarrel and under his conduct, on as can be wished; yet when an ever-powerful Enemie is to be encountered, and ready for a battel; it is the wisdom of an able General by all means to seek to avoid it.

Towards which this Stratagem following much conduceth, and may be drawn into President, as it is set down in *Potian* (*lib. 4. in the Antig.*) and practised by *Antigonus*; when he was encamped in the face of *Eumenes* his Armie, but with an Armie by much inferior in number. At what time Messengers (or rather Spies) being interchangeably sent from one to another; *Antigonus* at the receipt of a Messenger from the Enemie, which he expected, had fore-appointed that one of his Soldiers should come running, and as it were breathless, and all to be dusted and sweaty, and tell him that

all his Confederates were arrived. Upon which Tale *Antigonus* expressing much joy, presently dismissed the Enemies Messenger without more ado. And the very next day he brings his Army out of his Trenches, doubling the length of his Front, to make his Armie carry the greater shew. The which the Enemies seeing, and having heard the report of their Messenger, and observing the breadth of *Antigonus* his battell, and imagining that the depth was answerable to it; he suddenly dislodged, and was afraid to joyn battell with him; which was the onely thing that *Antigonus* desired.

And as this is a Stratagem to shun and decline a Battell when the Enemy is found too strong; so this other proceeding is very pertinent, on the other side, to draw and entice him to a fight when he is known too weak.

And this Stratagem also is mentioned by *Polyemus* (*Lih. 3. in Cleanderides, Sect. 4.*) where *Cleanderides* speaking War upon the Thuriens, and

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having

having double the number of men in his Army to that of his Enemy; and conceiving that if he did but know so much, he should never bring him to a battel: To deceive him, and embolden him by his ignorance, in the embattelling of his Armie or Phalanx, he ordered it into an extraordinary depth: whereupon the Enemy apprehending by the narrowness of the Front that *Cleandridas* was very weak in number, contemning his small strength, drew out his Forces in breadth, with an intent to environ him. The which *Cleandridas* perceiving, commanded the one half of his Files to march up and rank with their Leaders; and thereby so over-fronted the Enemy on a sudden, unexpectedly assailing him withall with missive weapons on all sides, as he utterly routed him.

As touching the practice of desperate attempts in Military Actions upon desperate exigents: It may prove sometimes a profitable Stratagem in attempt and put that in execution which otherwise in it self were contrary

rary to Reason it self, and the very Art of War : which may be grounded upon this :

That in regard a wary and able Commander and Generall not onely setteth upon tried and sure Grounds himself, but even from thence and the very same Rules expecteth the like from others ; upon finding the contrary practised by his Enemy beyond his apprehension and expectance, he may thereby be happily so disturbed in his set Resolutions and Courses, and be so new to seek, as may (before he can recal himself out of his amazes) give opportunity to the desperate attempter to free himself out of his desperate condition.

And Examples proving thus much are to be found put upon even *Cæsar* himself by the *Nervii*, (registred by himself in his Commentaries, cap. 10.) as also in that battel of his with *Pharnaces*. And in our Modern Wars this practice hath proved successful more then once, in those violent Civil Broyles in *France*.

True it is, that these ways and Stratagems are to be charily and very sparingly handled; and onely upon most urging, if not desperate occasions: For, *Temeritas non semper Felix.*

Since therefore there is so much of Advice and Counsel requirable in all Actions of War, we will conclude this Treatise with a preventative Policy or Stratagem for the taking away of false or flattering respects in the point of celiivering opinions. For it being over-commonly found, that through the obsequious dependance upon some Favourite or great Man, a general consent and compliance is produced, to say as he saith, or vote as he votes (a fatal disease in all great Assemblies) though perhaps it be either the worst that can be, or at the least none of the best; and by this means the truest judgements remain concealed:

To remedie this dangerous and deadly mischief, the wise *Cosmo di Medici* (and herein also imitated by *Philip*

in the second of Spain) used to propound his most difficult and important Causes and Propositions in Writing; and so delivered them to every one of his Counsellors apart, commanding them to return their opinions in the same manner to him, together with their reasons; and (upon his highest displeasure) not to communicate any piece of them with any other, before his first view. And after the receipt of them all, he would cause them all to appear in Council with him, and in his presence to defend and maintain their several Judgements and Opinions with their best Arguments. A course certainly full of excellent freedom, and for many respects far better then that the youngest Counsellor should speak first; who sometimes may be so skilful in Courtship of this nature, as to be led by looks.

And besides, it alloweth these Counsellours a fit time of deliberation to think upon what they have to say; it being dangerous in these Cases,
or

or any of weight, either Divine or Humane (be the Speakers never so able) to be too forward to put themselves upon Extempories.

FINIS.

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